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ADJUSTING FAMILY SPENDING TO MEET REDUCED INCOMES[1]

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UNDER ordinary circumstances, committing oneself to speak on adjusting family spending would imply an omnipotence that one would scarcely care to claim. Those who have been working with families for the past two years, however, have been able to give us some definite information about the adjustments that are being made which help to preserve the health and the morale of the family. Two groups are concerned in this situation, those who are totally unemployed, and those who, although employed, have had a drastic reduction in wages.

The American Federation of Labor recently estimated the number of unemployed as 8,000,000 persons. Figures from other sources have varied above or below this figure. According to the United States Bureau of Labor Statistics, between the peak month of 1929 and the low month of 1931 the money income from urban labor dropped 40 per cent, while for the same period of time the cost of living dropped only 20 per cent. This means that the average worker in industry has had a 20 per cent cut in real earnings and purchasing power. As a result of this drop in income many adjustments have been forced on families such as dipping into and often completely exhausting savings which may have represented childrens' education or old age security; drawing on all other resources such as insurance; selling furniture and other salable possessions; moving into cheaper and often less desirable living quarters; and, very often, going into debt.

All of this means a breaking down of the standard of living which the worker has slowly and painstakingly built up. Grave as this situation is, it cannot be compared in seriousness with the plight of the man with-

[1] Presented at the meeting of the American Home Economics Association, June 22, 1932.

out work. He may have been working only part time at a reduced wage. When the final lay-off comes, his resources are soon exhausted; his credit is gone; and he is forced to apply to a social agency for help.

The Garcia family is a typical example of this: Mr. Garcia applied to a New York social agency last winter. He had been out of work for months; the rent was long overdue; and the landlord was threatening to dispossess the family. What little food they had had in the last few weeks had been given them on credit at the neighborhood store. The grocer was unwilling to extend further credit. Mr. Garcia wanted a job desperately—food for his family if that wasn't possible. As the social worker grew to know the family better, facts concerning their background emerged. Mr. Garcia was a high school graduate with two years of specialized college training. For a number of years he had acted as a selling agent for American firms in Puerto Rico. He and his wife and six children had a comfortable home and a small car, not luxurious living but certainly comfortable and secure with a small margin for savings. They had come to the United States in 1930 in order to give the children better educational opportunities. Mr. Garcia secured work as a salesman at $35 a week. They rented an apartment and arranged for the purchase of $300 worth of furniture on the installment plan. After six months, Mr. Garcia lost his job. His firm gave him excellent references; they would be glad to take him back when business picks up but had nothing for him now. The family moved to a smaller apartment and were as economical as possible, but their savings were soon used up. At the time they applied for help, the electricity had been turned off long before because of unpaid bills, the furniture had been taken back by the installment company, and all the family possessed by way of furniture was a few beds. Today Mr. Garcia has a made work job at $15 a week on which he is attempting to support his wife and six children and needs help in adjusting to this income.

The Welfare Council of New York gives 175,000 families as the approximate number receiving relief in that city during April of this year. Six million, seven hundred thousand dollars was distributed among them by public, semi-public, and private organizations, many of them families that had always been independent. The private family welfare organizations are still attempting to do individualized and personalized budget planning for the families under their care. Very few family agencies, however, have been able to meet adequately the demands that have been put upon them in the last two years. Those in New York City with which I am most familiar have had to make

drastic changes in the standards of relief giving which have been built up over a period of years. They have had to choose between giving adequate relief to a few families or dividing their funds to include all who needed help. While I am quoting specifically the adjustments which were made by the Charity Organization Society, they are approximately the same for the other agencies in New York City.

Formerly, the budget standards were worked out on a minimum but adequate basis, adjusted in so far as possible to the plane of living the family would be able to maintain when it was again self-supporting. These standards included decent housing; adequate food with some slight margin of choice and regard for racial preferences; suitable new clothing, again with some margin of choice in selection; allowances for heat and light; cleaning supplies; toilet articles; renewal of household articles; and some money for such items as recreation, church, and insurance. Clinic facilities are easily available so that most medical needs were taken care of this way. Relief was planned on a budget basis with the needs of each family in mind. As increasing numbers of people applied for help and no commensurate increase in relief funds was available, allowances had to be adjusted and what are called subsistence budgets were worked out. Even when families are receiving relief on this low basis, it is necessary to make a budget plan, listing all family resources as well as expenditures. Family earnings, if there are any, natural resources such as family and friends should be included as well as income in kind, such as clothing from relatives, school lunches, and additional food or milk that may be sent in. It is only by this means that a true picture may be had of the family's economic needs. Possibly a comparison of a minimum adequate weekly budget and a subsistence budget for a family of five consisting of a father and mother, a boy of 13, a girl of 10, and a boy of 7 years of age as planned by the Charity Organization Society will be helpful here; the prices are those of April, 1932.

	Minimum budget	*Subsistence budget*
Rent	$5.10	$5.10
House operation	2.15	.65
Clothing and incidentals	3.80	?
Food	7.70	7.00
Car fare	.50	.25
Miscellaneous items (health, insurance, and recreation)	1.75	?
	$21.00	$13.00

This does not mean that every family of five would be adequately cared for on $21 a week nor that every family of five would require $13 for the subsistence level. While the rent is the same in both budgets, sometimes it is not necessary to include it, as a family might be in a position to exchange janitor service for rent. Some social agencies, because of the limitation of their funds, have made it a rule to pay no rent. This has been one of the tragedies of the past winter. The insecurity of the family momentarily faced with eviction has added just one more factor to the nervous tension inherent in the present situation.

The allowance for fuel and light is less in the subsistence budget because it includes no allowance for gas during the winter months, many families being able to use the coal stove for cooking as well as heating. Some families have reduced this expenditure further by collecting free wood. An allowance for cleaning supplies is always necessary, but allowances for replenishing of household supplies can be omitted for a temporary period. If there is some way of supplying the family with second-hand clothing, the clothing item may be greatly reduced or omitted. Money for car fare may be needed if the man is looking for work. That books, recreation, and similar items play an important part in normal family life, cannot be denied, but since this need can be supplied by the use of public libraries, attendance at free lectures, concerts, and museums, this item can also be left out. None of these reductions are desirable, but they can be endured without seriously affecting health. Although these are the adjustments that are being made in the budget plans of social agencies, they are suggestive of the changes every family must make in a greater or less degree when there is a cut in income.

The reduction in the food item in the subsistence budget was made possible by the use of one half evaporated milk and one half bottled pasteurized milk instead of all fluid milk. At all times, however, food standards must be considered to be of paramount importance. Food allowances which agencies used in computing adequate minimum food budgets were based on the estimates in "Good Nutrition at Minimum Cost"[2] prepared and published by the nutritionists of the New York Family Welfare Agencies. For a family of the size and make-up mentioned in the budget shown, $7.70 was required last April. There has been a slight decrease in food costs since then. As nearly as pos-

[2] Obtainable from the New York Association for Improving the Condition of the Poor, 105 East 22nd Street, New York City, price, $0.25.

sible these standards have been maintained, adjustments being made as the size of the family and the need of the individual members required it.

In all cases those essentials which Dr. Sherman set up in that classic called "Emergency Nutrition,"[3] which he wrote for the American Child Health Association, have been met: (1) Milk and its products; (2) fruit and/or vegetables; (3) bread and other cheap sources of calories. This does not make an interesting diet, but as Dr. Sherman says, we have heard a great deal about "deadly monotony"; but "no deaths are ever caused by monotony of diet if the diet, however simple and cheap, provides the actually necessary nutrients; while shortages of those nutrients do cause all too many deaths, if not directly then by lowering the resistance to disease." Economies in the purchase of food can be introduced in various ways such as: the use of evaporated or powdered milk wherever they are cheaper than pasteurized bottled milk, the use of the cheaper fruits and vegetables, day-old bread which usually costs half the price of fresh bread, and purchasing food in bulk rather than in package.

Food allowances, no matter how limited, should be based on the individual needs of the family that is to use them. Blanket food allowances of two dollars and three dollars should not be used. A guide which has been adopted by nutritionists in New York is a minimum allowance each week for each person of at least 3½ quarts of milk, either bottled pasteurized, evaporated, or powdered; 6 pounds of fruits and vegetables, including legumes; 2 to 4 pounds bread; and 1 to 2 pounds cereal—the variation being intended to cover the needs of different individuals. In large families it may seem that the amount of milk required is high when compared with other foods. It is only by maintaining this standard of at least a pint of milk per person per day that low cost diets can be made adequate. It is essential, therefore, that we who know this do all we can to see that this standard is maintained. A number of years ago Miss Gillett formulated five rules for dividing the food money to insure adequate nutrition:

1/5 more or less for vegetables and fruits
1/5 or more for milk and cheese
1/5 or less for meats, fish and eggs
1/5 or more for bread and cereals
1/5 or less for fats, sugar and other groceries

[3] *Child Health Bulletin* Vol. 7 (November, 1931), pp. 185–188. Reprints obtainable from the American Child Health Association, 450 Seventh Avenue, New York City.

While these rules have been used successfully with the higher income groups, Miss Gillett does not consider them suitable when very little money can be spent for food. It is safer to estimate the needs of each person on a quantity basis.

In some places it may be necessary to issue food orders limiting selection to the most essential foods, but families should have the satisfaction of going to the store and selecting their foods and not have the food doled out to them from a central commissary where only the dependent go. The latter method has often been adopted as an economy measure, but is not so economical as it looks, for it takes trade away from the local merchant. In some localities where a large number of his former customers are among those receiving relief it may even add him and his family to that group. Several cities have worked out a plan whereby local merchants will honor food orders on a wholesale price basis plus a small commission. In this way the families are supplied with adequate food at the least possible cost to the community and the family is spared the ordeal of waiting in line, along with all the other unemployed group, for a hand-out of food.

Reduced to its barest essentials, even a subsistence budget must include:

Shelter—even though of poorer quality than the family normally would have
Food—enough and of the right kind for maintaining health and normal growth and development of each member of the family
Some cleaning supplies
Usually some provision for fuel for cooking and in the winter months for heating

That serious consequences may result if families are reduced to this level for a period of months, no one can deny; and yet if only essentials can be met these seem to be the most important. But we must remember that families vary and that no general rule can be applied which will fit every family's needs. Each must be dealt with on an individual basis.

Undoubtedly, most communities in this country are faced with the problems of adjusting family spending or allowances to meet emergency funds. Yet comparatively few of them have any idea of what it costs to provide for adequate minimum standards of living or of how adjustments can best be made. The budget material which has been worked out by home economists in social agencies can be applied to almost any community by substituting local prices for those given. Then the cost in dollars and cents of maintaining adequate minimum standards can be worked out for families according to the needs of the individual members. It is the responsibility of us home economics people to bring this informa-

tion to the attention of our communities and to do all we can to prevent their piling unnecessary humiliation on those who have had to apply for assistance.

We must remember that second only in importance to the principle to which we cling—adequate food for all—is the principle of preserving family morale.

GRADES AND LABELS FOR CANNED FRUITS AND VEGETABLES

FLORENCE A. ARMSTRONG

MANAGERS of American households would like to know the grades of the canned foods they buy. Against the inaccessibility of such information, they have objected for a long time.

The federal law requires that the label of canned foods specify the quantity in the can, expressed as net weight, measure, or numerical count. This means something, though not much, as the ratio of product to juice varies widely. If the label cites the name of the product contained in the can, it must be the name in common use and must not be misleading. If ingredients other than the main product are added, they must be listed plainly.

But the consumer wants the quality as well as the quantity on the label. It is not that standards do not exist. The manufacturers, wholesalers, and retailers do most of their trading on the basis of grades. It is the right of the consumer to the benefit of these grades that the household and institution buyer is now emphasizing.

In its work of cooperating with the states for the improvement of the marketing of agricultural products, the United States Department of Agriculture has not only recommended grades for 38 products which are now the accepted standards throughout the country,[1] but in cooperation with the National Canners Association it has drawn up minimum standards for certain canned fruits and vegetables, namely canned peas, tomatoes, apricots, cherries, peaches, and pears. Others are being drawn up. In accordance with these standards, the inspection service of the United States Department of Agriculture grades the output of those canners requesting the service.

The grades generally used for canned fruits are:

1. *Fancy*: Superlative quality. High color, ripe, firm, free from blemishes, uniform in size, and very symmetrical. Heavy syrup, about 55 per cent.
2. *Choice*: Fine quality. High color, ripe, firm, free from serious blemishes, uniform in size, symmetrical. Syrup about 40 per cent.

[1] SHERMAN, WELLS A. *Merchandising Fruits and Vegetables*. New York: McGraw-Hill Book Company, 1928, p. 202. [The number was 65 in October, 1932.—*Editor*.]

3. *Standard*: Good quality. Color, reasonably good, reasonably free from blemishes; reasonably uniform in size, color, and degree of ripeness; reasonably symmetrical. Syrup about 25 per cent.

4. *Substandard*: Lower than the minimum grade for standard. About 10 per cent syrup.

As to vegetables, the grades are similar, based largely on size, color, uniformity, and tenderness; of course no sugar is required.

A step forward of great value to the household buyer is the recent McNary-Mapes law which requires that all canned fruits and vegetables for which the United States Department of Agriculture has set a minimum standard by grades should bear the designation "substandard" on the label if the contents of the can fall below the minimum requirements for the "standard" grade.

What the buyers for our American homes want is that the next logical step shall now be taken: the designation on the label not merely of the substandard grade, but of all the grades. Some canners also, realizing the value of following the preferences of consumers, advocate the placing of grades on the labels of all such goods.

It has been the unorganized state of the opinion of ultimate consumers that has allowed the matter to drag on. The United States Department of Agriculture is said to have expected when the grades for various canned fruits and vegetables were established that the wholesaler would at once insist on having the grades placed on the label of the cans in order to facilitate the retailers' handling of the graded stock. He did not. The buyer for the household has had to make the best of an unsatisfactory situation.

The commercial canning of fruits and vegetables in the United States has advanced very far beyond the early stage of putting up in cans the surplus crop of tomatoes and sweet corn. At the beginning of 1932, the National Canners Association advertised forty-seven types of canned vegetables and thirty-four types of canned fruits (besides other kinds—altogether "two hundred delicious, tasty foods"). In 1929, the United States produced over two-thirds of a billion dollars worth of canned fruits and vegetables of which a third of a billion pounds went to other countries. Undoubtedly the consumer likes the canners' output.

It is with no intent to ignore the benefits the canners have brought that the writer directs attention in this paper to some shortcomings and lays stress on needed changes that would benefit mutually producer and consumer. The industry has utilized the services of the bacteriologist to a worthy accomplishment; it now should utilize the services of the

economist in reorganizing its system of distribution at certain points, the most pressing of which is discussed in this paper.

An old criticism of these products, which still holds, pertains to the buyer's uncertainty as to the quality of the contents of the can. One may look at the label but not through it. Inside those shiny tin walls, what is there? The buyer opens the can and finds maybe just what she expects, maybe something better, maybe something worse. It is true that some canned fruits and vegetables are differentiated on the label by such designations as "whole," "sliced," "crushed," "solid pack," "with puree," "halves," "asparagus style" string beans, or "cut" string beans. These marks guide the buyer to the form her purpose requires.

Unfortunately the consumer seldom can be as sure of getting just what she wants in grade as in style, though it would be good for the business if she could. It might be safe to venture the opinion that a large share of the repeat business of some canned foods (such as "Melba halves," for example) is the direct result of the fact that the label gives enough information, by means of some distinguishing word or phrase, for the consumer to have reasonable certitude as to the quality of the contents.

Not that the consumer always wants the same thing. Different requirements call for different grades. The household buyer should be able to select from the endless array in the market the grade that answers her immediate purpose and is most economical for it. Once in a while she wants a "fancy" grade. Usually she selects a middle, "choice," or standard grade. Occasionally she makes use of the "substandard" grade and may find it surprisingly suitable for some purposes.

That noteworthy differences actually exist between various brands of canned fruits and vegetables is shown by the data in the accompanying table taken from several series of comparative laboratory analyses of canned apricots and string beans.

These analyses show that the lowest priced brand of apricots (G) cost almost as much per pound of drained fruit (23 cents) as a medium-priced brand (F) (25 cents). The highest priced brand (D) was 20 per cent higher in price than the next highest (C), yet cost less per pound of drained fruit. Of the brands in this series of analyses, when cost and all the factors of quality had been taken into consideration, brand F proved the best selection for general use; brand D, the highest priced, proved to be a good selection, though not so good as brand E or brand F.

The analyses of canned string beans show similar erratic values. Brands D and J sold for about the same in the retail market (26 and 25 cents), but per pound of drained contents the cost differed widely (40

and 28 cents); their desirability otherwise was about the same. Neither the highest nor lowest priced brands gave the best value to the buyer. The label proved as illusive a guide as the price. All factors considered, brand J was decidedly the best selection of the ten for the household buyer. For some purposes, however, the household buyer could use to advantage brand F at fourteen cents a can; for some purposes she would never select it. But how was she to find it out? Many of the readers of this discussion doubtless have made in their own laboratories other tests which show a similarly wide range in value.

Relative costs of 8 brands of canned apricots and 10 brands of string beans

MATERIAL AND BRAND		AVERAGE COST PER CAN	AVERAGE COST PER POUND OF DRAINED MATERIAL
		cents	*cents*
Apricots	A	25	24
	B	25	23
	C	40	44
	D	50	42
	E	36	35
	F	29	25
	G	18	23
	H	25	24
String beans	A	23	31
	B	24	30
	C	25	32
	D	26	40
	E	14	17
	F	14	18
	G	24	28
	H	28	33
	I	28	33
	J	25	28

Could the consumer be guided by knowing the grade of the product as the middleman knows it, she could trust canned foods more fully. She would then use more. Thus again the interest of the consumer turns out to be the same as that of the producer who needs to sell more.

Perhaps the producer considers that the household buyer is so wise in her judgments and so experienced in selection that, unlike the middleman, she does not need the guide of grading which has been provided for his use. Granted that the household buyer is a good judge of foods, what condition actually confronts her in the markets? The JOURNAL OF HOME ECONOMICS for March 1928 quoted a trade magazine as saying that "there are 1,000 brands of canned peaches, . . . 4,500 brands of

canned corn, . . . 300 brands of canned pineapple, and 1,000 brands of canned salmon." Similar figures could be cited for canned tomatoes, canned string beans, canned apricots, and all the others. It is plainly impossible for the consumer to judge canned foods merely by brands.

The wholesaler may have expected the retailer to pass on to the household buyer by word of mouth whatever information the retailer possessed on the subject of the standards of canned fruits and vegetables. Occasionally the seller does know and gives such information when asked for it. But the merchandising of food does not, even as much as formerly, make it possible for the consumer to find out much from a retailer. The cash-and-carry stores and the other prevailing types of retail establishment give the consumer almost no opportunity to obtain information. One just takes what is there, uses what judgment one may exercise, selects, pays, goes. Or, where there is delivery service the customer often telephones an order and the sales person suggests or selects the brand and the grade.

Even the retailer himself buys more and more by brand. Indeed, so much has the wholesaler overshot the mark in selling to the retailer by brand on the basis of advertising rather than on the basis of the quality of the goods that the poor retailer hopefully repeats to his inquiring and amused customer the facts about the vast expenditures for the national advertising of the brand. As to the contents of the can, no data seem available.

In developing commercial canning, much has been done by the federal government and the manufacturers to standardize the product. Associations of canners have for their own guidance evolved various specifications for certain of their products. Laboratories for testing the day's run enable the producer to maintain his standards. Continuous research in laboratories of canners' associations uncover mistaken procedures and discover improved scientific processes. Changes for the better greet the buyer all the time; further improvements may be expected. The technical papers published on the subject and the attitude of the producers in their trade conventions show determination to progress. Standard sizes of cans, too, have been more or less generally adopted throughout the industry, so that both middlemen and consumers may usually obtain the size they desire, though not shown on the label.

Some producers, of their own volition, do designate the grade of their product on the label of the cans and this practice, on the part of the industry as a whole, would improve matters both for the producer and the consumer.

Why does anyone object to thus informing the buyer? The objectors fall into two groups. The first includes those producers who wish to preserve public illusions as to superlative quality which have been built up by the expenditure of fortunes in advertising their brands; they fondly think that household buyers consider these brands the highest grade because the advertising of them uses superlatives. The second group of objectors is made up of those jobbers who consider it easier to sell to retailers on the basis of brands backed up by advertising campaigns than to sell on the basis of quality.

As to those producers and middlemen who prefer to exploit consumers rather than to serve them, the inexorable mills of the gods may grind away both their objections and their business. For the two strong competitors of the canning industry grow stronger daily, namely inexpensive fresh fruits and vegetables which improved refrigerated and heated vehicles distribute throughout the year, and quick-frozen fruits and vegetables which increasingly attract the consumer. These two rivals give the housewife the thing she now most wants—whatever the canner and his highly paid advertising agencies may think she wants—and that is, a way to know what she is getting. The longer the canner puts off satisfying the consumer's demand for information as to grades, the faster the consumer will take to using other products which she can more readily grade for herself.

In general, the business concerns which have gone ahead steadily during the recent difficult years are said to be those that have made a close study of consumers' needs and preferences and satisfied them. As the discovery of the automobile and of the radio lifted the country out of past slack times, so, Dr. Frank M. Surface has suggested, the discovery of the consumer might lift business out of its current slump.

It is not clear what will be involved in reconstructing our economic structure into a workable and satisfactory system. One thing, however, is clear: consumption must in the future really direct production. Many obstacles now hamper and obstruct the exercise of this directive function; changes will have to give clearness, strength, and general effectiveness to it. The simple measure outlined in the foregoing paragraphs is one of the many changes that would enable the consumer to give the productive system the guidance it must somehow get. It stands also as a plea for one of the shifts in attitude required by our time—a shift to more cooperation between producer and consumer. The more gradual and peaceful this shift, the better for us all.

WRITING THE HOME ECONOMICS RADIO PROGRAM[1]

MORSE SALISBURY

ALL the home economists with whom I have worked on radio programs are eager to learn the tricks of the radio trade. Now I cannot tell home economists all of the tricks of the radio trade because I don't know all the tricks of the radio trade. I can only tell them how I approach the problem of teaching by radio and what my conclusions presently are about effective ways of teaching by radio. And I shall try to sum up for you these conclusions of mine and show you how I have reached them.

When I talk with one of the home economists who wishes to use radio to send scientific facts to homemakers, I urge her to start her work on the program by trying to answer the question, "What do I aim to do with this radio program?"

If we know exactly what we want to do with a radio program, we may be able to do it. If we present a radio program simply because "this is a great new educational medium" we probably will get precisely nowhere.

I said we may be able to do what we want to do with a radio program. Two years ago, I discussed radio broadcasting with a round-table group of home economists at the meeting of the Land-Grant College Association.[2] I commented to them that all of us had to understand the limitations of radio broadcasting before we could get very far with educational radio programs. I have found no reason to revise the list I then gave of limitations of radio as a teaching medium. One limitation is that radio broadcasts lack reference value. You can't file away a radio talk so it will be at hand to reenforce your memory later on. Radio talks lack pictorial effect. Some sort of pictorial effect is highly necessary to the learning of some of the things home economists try to teach. Radio further lacks opportunity for the listener to question the teacher and to clear up misunderstandings.

Now radio does offer home economists many advantages as a method of

[1] Presented at the Conference on Home Economics in Education by Radio, American Home Economics Association, Atlanta, Georgia, June 20, 1932.

[2] See also JOURNAL OF HOME ECONOMICS Vol. 23 (September, 1931) pp. 849–853.

taking facts to homemakers. By radio broadcasts you can visit daily with large numbers of homemakers. You can keep them informed of the new practices coming from the experiments of scientists and the experiences of other homemakers. You can rouse their desire to adopt these new practices. You can actually teach them some new practices, such as the use of new recipes, because they will take the time to write down the words and figures they must have in order to prepare the new dish. But you find it difficult to give homemakers by radio detailed instructions and facts they must have before they can adopt many new practices. For instance, methods of sewing.

So it becomes plain that home economics broadcasts must have the backing of printed material or meetings and demonstrations supervised by field workers in order to give listeners a chance to learn many of the things home economists want to teach. Therefore, the first test of a good many home economics broadcasts is going to be: What does this program leave for the listener to do next?

The method we most commonly use in home economics radio programs is the straight lecture, or, rather, talk. Now here are some of the things we think we know about how to write a radio talk.

It seems to us that the home economist who sets out to prepare and deliver a radio talk must consider first of all the relationship between herself and the listener. She is going to be a guest in the home of her listeners. As a guest by radio she is under the same obligations that rest upon guests present in person; hence the radio speaker is courteous, interesting, clear, and logical in her statements.

Because she is courteous, the radio speaker gives a greeting to her hosts. She may make it formal or informal. But she at least makes her bow to the people who have invited her into their homes. Then she tries to fix the attention of her listeners upon what she has to say.

After she has captured the interest of her listeners, she centers it upon the ideas or the practices that she wants to get across by the talk. In organizing her talk she bears in mind the prescription of the Tennessee mountain circuit rider who advised a new recruit to the ranks of the itinerant clergy that the way to make his sermons stick was to "tell 'em what you're going to tell 'em; tell it to 'em; and tell 'em what you've told 'em."

A formula I like for the organization of the radio talk is: (1) a greeting to the audience, (2) an interest-getting opening paragraph, (3) a summary of the points the talk is going to cover, (4) a swift, interesting development of the summary outline, (5) a final summary to clinch the

points in the minds of the listeners, (6) a direction to the listeners who may now be interested in adopting the practice the talk has urged, telling them where to get further information.

Such an organization is familiar to most people accustomed to expressing facts and ideas. But when home economists first go on the radio they seem to feel that because of the brevity of the radio talk they must sacrifice organization in order to cram more facts into the time. I think they thus make a sad mistake. The human memory cannot long hold a large number of facts. I suppose that is why man from the earliest times has tried to devise ways and means of recording facts and ideas permanently. But the human memory can grasp and retain in summary statement a sequence of facts or ideas. So your summary statement has a chance to stick with the radio listener. The more you can repeat that summary statement without growing boresome, the better chance you have of leaving it with your listener. Lacking any summary statement, a radio talk trying to convey facts is likely to leave with the listener only confused impressions.

Now going from the organization of the talk to the tricks of the trade of word-vending, we open rich possibilities for disagreement between the radio program administrator and the home economists who prepare papers and speak on the programs.

The fact that we have arguments with authors of radio talks does not in the least mean that those authors don't want to say their say so that the listener will remember and profit by the talk. Those arguments do mean that when we start to work on a radio talk, we usually perform operations that violate all that a scientist learns from colleagues and administrative superiors about writing for print. Writing is writing to most people. And justly so. But there are differences between writing for print and writing for speech. There are vast differences between writing for official print and writing for extension speech.

To begin with, generations of scientists have grown up in the tradition that their writing must first of all be objective. A scientist distinctly feels that he has done violence to the morals of the guild if he lets his personality intrude upon the facts he has presented. He must write in the third person (that's not so bad); in the passive voice; when he gives advice, in the subjunctive mode.

But the effective radio teacher writes and speaks in the first and second person, the active voice, the indicative or imperative mode.

The effective radio speaker tries to establish a "you and I" relationship with his listeners. He remembers that he is a guest in the homes of his

listeners. But a scientist sets pen to paper with the fixed idea that he will violate the first canon—the canon of personal modesty—in the scientific ethic if he writes in a way that will establish a "you and I" relationship between himself and his readers or listeners. The scientist has learned to put his emphasis upon facts rather than upon the discoverers of facts or the users of facts. Therefore, the scientifically trained person in all his writing shuns as a pestilence the perpendicular first personal pronoun. But the story-teller has to use the first personal pronoun now and then. The advice giver has to use the second personal pronoun. The effective extension radio talk tells stories and gives advice.

The story-teller uses active voice. The passive voice writer walks backward through her story. She says, "The slip covers were made (by me implied). But the story-teller says, "I made the slip covers;" or "We made the slip covers;" or "She made the slip covers."

The scientists' preoccupation with facts and ideas that causes them to ignore people in their writing does more than throw their verbs into the deadening passive form. It makes them choose big words that express big ideas instead of simple words that tell stories and thus get across the big ideas. At the risk of doing less than justice to scientists I am going to quote Frederick L. Allen of *Harper's Magazine* on what he calls the "goonish" style of writing:

> A goonish style is one that reads as if it were the work of a goon. It is thick and heavy. It suggests the sort of oatmeal served at lunch counters, lumpy and made with insufficient salt. It is to be found at its best in nature books, railroad folders, college catalogs, and prepared speeches by high public officials. It employs the words youth and lad, likes the exclamation lo! and says one may readily perceive, instead of you can easily see.
>
> The trouble with the goonish style usually is that its possessor forgets that he is addressing ordinary human beings and writes for something strange and portentous which he thinks of as the Public.
>
> The young or inexpert writer frequently achieves goonishness by writing for Posterity, forgetting that the real posterity will consist of a tremendous lot of people more or less like those who live in the next block.

Mr. Allen's sprightly remarks bulge with profound truth for the edification of persons intending to commit radio speeches. After all, the radio speaker isn't speaking to the Public. She is speaking to a family much like the families that live in the next block. Pick out such a family of your acquaintance and talk with them, and you will be started on the road to making a good radio talk.

One more thing about the grammar of the informational radio talk. I find that when they give advice scientists somehow have acquired,

right on top of their passive voice complex, a hyper-complex on the subjunctive mode. It is bad to end a discourse on boning lamb cuts with the injunction, "You should take care to leave as little meat as possible on the bone." That is irritating. So the scientist, to avoid being irritating, becomes vague. She says, "Care should be taken to leave as little meat as possible on the bone." I maintain that she would be neither irritating nor indirect if she said compellingly and non-offensively, "Take care to leave as little meat as possible on the bone."

I admit that I'm in an area of controversy there. The solution of the conflict between my ideas about the imperative mode and the scientists' ideas about the subjunctive mode waits upon experiments to find the reactions of listeners toward the two methods of giving advice. But I need no psychological experiments to back up my idea that prospective radio speakers will do well to read their talks aloud before they try to give them.

Some department authors have been especially grateful for this tip. By reading their talks aloud in the privacy of their homes or offices they have unmasked lurking sentences that might have strangled their authors right in front of the microphone. Of course the authors came near strangling on these innocent looking sentences when they read them aloud in private. But there they could stop in time. Before the microphone they would have had to go on to the obscene fate of choking in public over a participial phrase.

No one will deliberately risk the integrity of his vocal equipment by making it produce sentences such as appear in page after page of scientific writing for print. But a scientist usually writes for print. So every now and then a speaker new to department programs sends me an opus filled with sentences fit to test the skill of a world champion sayer of hard sentences. Let me give you an example from a talk—not a home economics talk—that came in the day before I wrote this paper:

> A well-known index of bond prices declined from 82 in March, 1931, to 58 in March, 1932, a decrease of 29 per cent; while at the same time the average price of 25 industrial stocks declined from $238 to $115, a decrease of 52 per cent, and the average price of 25 railroad stocks declined from $85 to $26, a drop of 69 per cent.

I gave the author an audition.

I give you my solemn word, ladies and gentlemen, this author, daring all for economics, actually said out loud several sentences such as the one I just quoted. It was a notable feat, and I am sorry there could not have been other ear-witnesses. But I didn't dare risk asking him to

do it again. The human larynx will stand just so much. I had the author hold those sentences while I swung a pole-axe on them. The trick is to hit them at their weakest points—the conjunctions and the semicolons. They will break off into segments that have the miraculous power of becoming whole sentences. Sentences that talk. Sentences, also, perfectly harmless to the voice box of a speaker.

We also operated on some of the statistics. We did a statisticectomy on all but the percentage figure in the sentence last quoted. We then did some delicate genetic experiments on the percentage figures, crossing common fractions with decimals, and getting "more than one-fourth" as the progeny of "29 per cent."

Then we tried to take the gulps out of sentences with adversative conjunctions dropped in their middles, with prefatory phrases, or attributive phrases tagged at the ends. By "gulps" I mean such constructions as this one: "Before March, 1929, however, farm land values had given some evidence of having at last reached comparative stability." Whenever you have a "however" stuck in the middle of a sentence as that one was, you have to stop and gulp genteelly either before or after you say it. But put the however at the front of the sentence—the very first word—where it ought to be—then the sentence speaks smoothly enough.

Then we substituted simple words for highfaluting words. We wrote "almost" instead of "virtually." But only after I had brought out to support my argument a quotation from Arlo Bates that usually fetches the author proud of his Latinized vocabulary:

> Untrained writers are apt to feel that they lower themselves if they condescend to write for the intellectual bourgeoisie. Many a clever young author has come to grief because he could not bring himself to use simple language lest it should seem that he did not command a more elaborate diction. He has failed because he could not be willing to address the ordinary reader lest he thereby might appear to show that he had not the gift of speaking to the learned. The great writers are men who are free from this weakness; who are intent upon making their message understood, and not upon preserving a foolish appearance of superiority.

Finally, we looked to the reference of all the pronouns. We found two or three places where a "this" or a "that" referred to a whole complex idea expressed perhaps in two or three preceding sentences. Obviously, the listener could not carry those two or three preceding sentences in his mind so we had to replace the pronouns with brief summary statements of the ideas the pronouns referred to. Any one who edits radio talks for a few months will learn to suspect pronouns.

Now I think we had better gather together these random observations about preparing facts for radio broadcast. I believe that most effective radio speakers get their points across to the listener by putting their ideas in picture language, simple words, story-telling words and constructions. They make their talks informal and conversational. They are not afraid to use the first and second person. As a matter of habit they prefer active voice to passive voice. They give directions in the imperative mode, not the subjunctive mode. Or they let their stories get the directions across. Their sentences speak easily. They organize their talks so that the main idea comes before the listener at least three times, preferably more.

The touchstone of successful radio speaking is naturalness, the naturalness of a person visiting in a family group. To achieve a natural manner the radio speaker visualizes a family group and addresses herself to it—not to the Public. That goes for both writing and delivering the radio talk.

NUTRITION, HEALTH EDUCATION, AND HOME ECONOMICS IN THE PUBLIC SCHOOLS

Progressive home economics teachers are conscious of their responsibilities in helping pupils to form good food and general health habits, especially in these times when lack of money is increasing the ever-present danger of malnutrition. They cannot always persuade the parents and school authorities of the necessity for greater precautions, nor are they always clear as to how the work might be extended outside as well as inside the home economics classes. The papers that follow will help on both these points. As explained on page 985, they are based on talks given at the February meeting of the Department of Supervisors and Teachers of Home Economics, National Education Association, and have been held over until some of the statements could be made more definite at the completion of the school year.

NUTRITION NEEDS OF THE SCHOOL CHILD AND THE RESPONSIBILITY OF THE HOME ECONOMICS TEACHER

LYDIA J. ROBERTS

The extent of undernutrition among American school children and the apparent general indifference to this condition touches not only the personal sympathy but also the professional responsibility of the home economics teacher.

The necessity for nutritional improvement among school children is obvious to all who have the eyes to see. Yet apparently few of those most directly responsible for the welfare of children are awake to the situation, if we may judge from the complacency with which they accept the nutritional shortcomings of the children under their charge. Perhaps the greatest need we have today is for some tangible evidence of nutritional status which can be used to make parents and teachers see their children as they really are; for until this is accomplished, little can be expected in the way of widespread improvement.

Even though no satisfactory method of judging nutritional status is available, the low state of nutrition among children is shown by three lines of evidence.

By retarded growth. A well-nourished child should grow normally in height and weight, and failure to attain normal growth is therefore one evidence of inadequate nutrition. Unfortunately, there are no absolute

standards against which to check the growth of an individual child. A few years ago, deviation from the average weight for height and age by 10 per cent or more was considered a sign of undernourishment. This was a simple and clear-cut method, and as long as faith in it persisted, it was seemingly possible to state in definite terms the percentage of undernourished children in a school or community. Experience soon showed, however, that nutrition could not be accurately measured by so simple a rule of thumb method, and other things than weight must be taken into consideration. In spite of this newer point of view, however, there are still many authorities who believe that deviation from average weight by as much as 10 to 15 per cent is a probable indication of undernutrition. To such authorities a recent assemblage of data on weights of 130,000 school children in 16 states, in which 21 per cent of the total were underweight by 10 per cent or more, would be regarded as significant evidence of nutritional needs.

But whether or not weight at any given moment is accepted as an index of nutrition, all authorities will agree that a child should grow normally in height and weight from year to year and that failure to do so should warrant an investigation into the cause. Again, there are few data available to show the extent to which children fail to grow at a normal rate, nor yet what normal growth is. Perhaps the best evidence on this point comes from the numerous recent studies which show marked improvement in the rate of growth of supposedly normal children when put on an improved dietary. Outstanding among these studies are two large-scale feeding experiments in England, one by Corry Mann in an institution near London, the other by Orr, Leighton, and Clark in the schools of seven cities in England and Scotland and in Belfast. In both these studies the additions of various supplements to the usual diets of groups of children resulted in every case in accelerated gains in both height and weight. In the case of the best supplement, milk, this amounted in a year's time to almost double the gains of the control group left on the ordinary diet. Since the gains of even this group scarcely equalled what is generally regarded as an adequate year's quota, it may be assumed that the growth of these large groups of children, as well as others comparable to them, had been retarded because of inadequate nutrition. Similar experiments in our own country indicate that like conditions exist here. In a series of studies on California school children, Dr. Agnes Fay Morgan and her co-workers have found that the addition of almost any supplement to the diets of underweight school children—milk, figs, oranges, wheat germ, or even mere calories in the

form of a sweet sandwich—resulted, as in the English studies, in accelerated growth as compared with that of the control group. The type of supplement that produced the best gains varied with the community and apparently depended on the deficiencies in the home diets. In numerous other experiments the same result has followed when the diets of children have been improved as regards essential food constituents.

It is well known that growth is dependent upon two factors, (1) an impulse to growth which is inherent in the organism, and (2) suitable environmental influences, the most important of which is nutrition. Such studies as these cited—and they could doubtless be duplicated almost anywhere—would lead us to believe that the inherent capacity for growth is in many children being inhibited because of inadequate nutrition.

By the extent of dental decay. Faulty nutrition affects the child in other ways than in growth, and one of the most striking of these is in the condition of the teeth. Although external factors doubtless also play a part, it is now generally conceded that the nutrition of the individual through all periods of his life, from the prenatal period to adulthood, is the greatest factor in determining the structure of the teeth and their resistance to decay. Such being the case, the condition of the teeth in a given community would be one index of the adequacy of its nutrition, not merely at any given moment, but particularly in preceding years. Judged by this test alone, the nutritional needs of this country are strikingly apparent. If one doubts the truth of this assertion, let him go into any school in almost any community and spend an hour or more with the school dentist looking into the mouths of children. Let him first have clearly in mind that if a child has been well nourished at all preceding periods it should have a set of sound, well-developed teeth with good occlusion and firm healthy gums. Let him remember especially that the six-year-molars are designed by nature to last a lifetime, and that it is reasonable, therefore, to expect to find them invariably sound in children eight to twelve years of age. With this normal picture in mind, let him observe conditions in his chosen school. Unless the community is an unusual one, he will come out at the end of an hour's inspection literally aghast at what he has seen and ready to start out on a crusade for dental hygiene.

Such evidence as is available indicates that in almost any school some 80 per cent or more of the children will be found to have one or more decayed teeth. The most striking evidence comes from the six-year-molars which are coming to be regarded as a simple objective index of

mouth conditions. A recent study of 500 children is probably fairly typical of what may be found generally. These 500 children should have had a total of 2,000 sound six-year-molars. Actually 1,000 teeth, or half the total number, were already decayed, many of them past saving.

Convincing proof that this situation is due in large measure to nutrition has been furnished during the past few years by some striking demonstrations of the effect of improved diet in arresting dental decay. Widespread publicity should be given to the experiments of Boyd, Drain, and Nelson at the University of Iowa, Mellanby in England, and Bunting at the University of Michigan, all of whom have shown that diet alone will cause an arrest in caries in children without any other form of dental treatment. In Bunting's study 75 to 80 per cent of the children given dietary treatment were found free from active caries at the end of a year's time as compared with but 18 per cent free from active caries in the control group.

If there be any doubt on the part of school authorities of the need for improved nutrition in their community, let them look into the mouths of the children for their evidence. And if they doubt that nutrition is a large factor in dental decay, let them stage for themselves an experiment similar to one of these.

By dietary practice. If further proof is required of the nutrition needs of school children, examine into their dietary practices. Unfortunately, most of the evidence on this point must be secured largely from the children or their parents and is subject, therefore, to great inaccuracies. Nevertheless, if such data are secured by trained workers who can safeguard the accuracy to the fullest extent, the results are doubtless of at least indicative value. All such studies show a prevalence of diets inadequate in one or more essential foods. Records of the milk consumption of 50,000 school children assembled recently from various parts of the country showed 46 per cent to be having less than the pint a day generally recognized by authorities as the bare minimum to cover the child's needs. Other studies showed a shortage of fruits and of vegetables, a prevalence of the "no-breakfast" habit, and an excess of sweets.

A more objective record of dietary habits is obtained by observation of the lunches chosen and eaten by children in the school lunch room. Here one need not take the word of a child or his parent, but may see with his own eyes the food eaten at this one meal. In a survey made of school lunches in connection with the White House Conference, the lunches of over 8,000 children in some 45 schools in various parts of the United States were observed. In no school were as many as 10 per cent of the

children found to have lunches which measured up to the modest standard of adequacy set (milk, vegetable or fruit, and two or more substantial foods to assure at least 400 to 500 calories). A visit to the school lunch room should be sufficient to convince any school authority of the needs for a nutrition program in his own community.

From all the evidence available, then, the average American school child is very much in need of nutritional betterment. He needs a better diet, with more milk, fruits, vegetables, eggs, meat, potatoes, whole cereals, and other wholesome foods. He needs a better breakfast and a more adequate, less hurried lunch. He needs less indiscriminate eating of candy and other confections between meals and more regular habits of eating, sleeping, and general living. He needs these conditions in order that he may grow into a full-sized, physically-fit individual with sound bones and teeth and a generally efficient, well-built body.

The part of the home economics teacher. These needs of the school child constitute a challenge to the entire school staff as well as to parents. To meet them adequately requires the working out of a carefully planned program of nutrition-health education extending throughout school life; a program so vital, so practical, and efficient that it will actually be carried over into the children's living. Much of the actual teaching, especially in the lower grades, must be done by the room teachers, but special responsibility rests upon the staff whose field of work has definite health content. Among these stands out conspicuously the home economics teacher.

The first duty of the home economics teacher in the health education field obviously is to the students in her own classes. To these she should give a fundamental training in nutrition, so rich in interest, in human experience, and so convincing that it will find expression in the living of the students and of their families. She should, moreover, seek to extend her nutrition teaching to the entire student body, boys as well as girls, by offering a non-laboratory nutrition-health course or a nutrition unit in a health course. Nutrition supervision is needed likewise for the health work in the grades and in the school lunch room. In smaller schools where a special nutritionist is not available, the home economics teacher, if she has adequate nutrition training, may function in these capacities. Mrs. Martin and Miss Davison describe on page 967 what can be accomplished in a school through a combination of classroom and lunch room education carried out largely by the teachers, with the home economics teacher acting in the capacity of nutrition teacher and supervisor. The results have been surprisingly successful in effecting a real

movement in the school for nutritional betterment, and have shown that much can be accomplished by the home economics teacher if she has the health point of view and concentrates her efforts on this phase of her work.

For many years now nutrition leaders have been urging upon home economics teachers that this is their responsibility and opportunity for service and pleading with them to take advantage of it, and there have been some noteworthy instances where this has been done. Unfortunately, however, there seems to have been little response in the country at large; when all is said and done, home economics is still very generally regarded as cooking and sewing and not at all as an agent in health education and human betterment. Granted that there is place for the teaching of technical skills, there can be no doubt that these are but minor aspects of home life today when considered in relation to the larger economic, social, and health values. To spend the time exclusively on technical skills when the nutrition and health of the children themselves and that of their brothers and sisters is so manifestly inadequate, is certainly a striking case of "fiddling while Rome burns." Home economics has always claimed the larger fields and has been quick to resent their appropriation by other groups, but actually it has done surprisingly little about them. It seems to some of us that the time is now ripe for home economics teachers to enter the larger fields and function therein, or else frankly to withdraw and leave them, undisputed, to others. My personal hope is that they will accept the challenge and take an active part in these important aspects.

All that has been said thus far has applied to the situation in normal times. The present economic crisis offers an unusual opportunity and challenge to home economics teachers to demonstrate the contribution they can make to the health and well-being of the community. It is for their own selfish interests, moreover, to do so. In these difficult times when non-essentials are being cut from the school program it is the home economics teacher in many schools who is the first to go. In others where the home economics teacher has identified herself with the vital social, economic, and health problems of the community, her work is considered, as it should be, as one of the most essential in the whole school and is retained at any cost. It is humanitarian rather than selfish reasons, however, that should impel the home economics teacher to assume her part of the responsibility for the nutrition and health problems of the school and community.

HEALTH EDUCATION IN THE PUBLIC SCHOOLS OF AKRON, OHIO

ETHEL AUSTIN MARTIN and M. LUCILLE DAVISON

Three years ago the National Dairy Council tried out a plan in which the school lunch was assigned an important part in the health education program. With the active aid of the school authorities the plan was introduced experimentally into three elementary schools, one of them in Akron, Ohio. The plan provided for health instruction by the classroom teacher and for the joint effort of school and home to encourage the child to put into practice the health knowledge acquired in the classroom. Particular emphasis was placed upon the better selection of noon lunches in the school cafeteria. The results of this program, in terms of better school lunches alone, indicated its value. Dr. Thomas Gosling, superintendent of Akron schools, wished to see the project extended, and through his continued support it was elaborated in two ways, by extension to a senior high school and by adaptation to elementary schools not equipped with lunch rooms. For over a year the work has been carried on in Akron's Garfield High School, and in six elementary schools.

The high school program. Two features characterize the plan for health education in Garfield High School: first, a special health course given to all freshmen during their first semester, and second, an organization of the faculty and students to integrate the health teaching with the high school program systematically and wherever possible.

Half a semester is allocated to the special health course for freshmen. This is made possible by dividing time with the regular community civics course. At the beginning of a new semester half of the freshmen enroll in the health course and half in the civics classes. At mid-semester these groups exchange. The amount of time allotted for health instruction is thus nine weeks, with a forty-five minute period daily during the five-day school week. The health class is taught by a regular member of the Garfield faculty who was previously the home economics instructor and who was released from her former duties to handle this special work. By a fortunate combination, she also has charge of the school cafeteria.

The health course was designed to meet the special needs and conditions of students in this school. It was placed in the freshman year in order to reach the greatest number of students and to help students as early as possible to adjust themselves to the heavy demands of high school life. Boys and girls may receive the instruction in mixed classes, or they may be segregated, depending upon their school schedules. The

course has the same academic standing as other high school subjects, and the students receive full credit for it.

At the beginning of the course, the conditions of city and school are reviewed by examining the health statistics; modern conditions are compared with those of the past and the accomplishments of health heroes studied. Next come the characteristics of sound health. In order to make the problem a personal matter, each student examines the health history and problems of his own family and studies his own physical condition, attempting to discover why his physical defects exist and how he can improve them. Since each student then wishes to find out how to attain or keep sound health, the class sets out on these problems.

They take up in turn the various factors necessary for sound health such as sleep, rest, exercise, fresh air, sunshine, and food. In considering the subject of food the class first discusses why the body needs food, what foods will best meet these needs, and what happens if these important foods are not eaten. Other lessons include discussions of colds, digestion, structure and care of the teeth, nutritional and communicable disease, and the general subject of community health and how to obtain it. The aim is to teach the pupil to observe all health habits, to be able to select well-balanced meals, and to realize why he should do this. A full discussion of physiology is not included because a course in biology is required later.

To assure that the course covers the points that students are wanting to know about, several sets of questions similar to the following are submitted to each group as they enter the course:

1. What does the word health mean to you?
2. Think of someone who is the healthiest person you know.
   (1) Describe him (or her) briefly.
   (2) What is his (or her) occupation?
   (3) Does he (or she) enjoy life more because of good health?
3. What are some of the questions on health that you would like to know about?
4. Where have you learned what you already know about health?
   Number in order the agencies from which you have learned about health:
   At school . . . . From your parents . . . . From magazine articles and books . . . . Radio . . . . Billboards . . . . . Magazine advertisements. . . . .
5. What health habits do you practice which you feel contribute to your good health?
6. What, if any, habits do you practice which you feel interfere with your good health?

7. Do you make any effort to regulate your body weight?
8. What does the word nutrition mean to you?
9. What do you think should guide one in the selection of meals?
10. In what ways do you, as an individual, feel that you can contribute to community health?

In the further effort to place the course on a plane of practical living, information about food and health habits is obtained by checking the lunches which the students purchase in the school cafeteria or bring from home. As a class problem, a survey is made of the type of food eaten at home by having the students keep daily records of the foods they eat. Records are also made of such habits as sleep, exercise, and time spent in work, in study, and out of doors.

Various special features are used to create more interest in health. Last year special assemblies were held with motion pictures on health subjects. A rat-feeding experiment was conducted in the health classroom with several of the boys assuming the responsibility of caring for the animals, and the health classes following closely the physical development of the rats and the effect of certain foods on growth. At a special assembly period the rats were exhibited and the feeding experiment was explained.

The integration program, the second principal feature of the plan, is designed especially for students above the freshman year, though the entire student body is reached. A faculty group, known as faculty health counsellors, is appointed by the principal and functions as a committee and represents the different departments of the school. Each member is chairman of a subcommittee responsible for a different section of the health program. The principal acts as chairman and members submit to him written reports of the activities and progress of their subcommittees. Student counsellors are also appointed by the principal from each of the eight half-year classes and act as "go-betweens" for faculty and students. They submit to the faculty counsellors suggestions from students regarding the health program and direct certain activities of the program, making their contacts with the student body through student representatives of the various home rooms.

There are eight of these special subcommittees and their names indicate in a general way the scope of the health program: lunch room, home room, integration, assembly program, home cooperation, general school betterment, publicity, and physical development committees. A few words about their work may suggest the methods used.

The home room committee plans ways in which the home room period

may be used, at intervals, to present different aspects of the health work, for example, in the "Living on Twenty-Four Hours a Day" program intensive education on the desirability of a well-regulated program for high school students was conducted during home room periods and students were helped to set up a well-balanced twenty-four-hour program based on their own schedules.

The lunch room committee periodically carries on an educational campaign for the improvement of school lunches. By a series of talks and discussions the students are taught to buy the best lunch possible with the money they have to spend in their own cafeteria. To make the campaign more effective various devices are introduced. A menu card, for example, is distributed at intervals, on which the essentials of a good, or "A," lunch are printed above the Garfield menu and a large card showing the essentials of an "A" lunch is hung in each home room. To focus the attention of students on good food selection at lunch time, small "A" cards are placed on the trays of students who have selected an "A" lunch, while those without A lunches get slips to remind them of the foods needed. This procedure has helped to make the cafeteria a forceful agency for teaching health and also a useful measuring stick for the effect of the health program upon the food habits of students patronizing the school lunch room.

The integration committee suggests ways in which the various faculty members may include health teaching in their regular classroom subjects. At the beginning of the program the entire faculty was asked to list the ways in which they had taught health during the previous year. Nearly half reported no health teaching. When at the beginning of the next semester the question was repeated, not one of the fifty failed to report some health teaching, and many had accomplished significant pieces of work in their various fields.

The purpose of the home cooperation committee is to obtain the support of the parents in conducting the health program. This is done largely by keeping the parents informed concerning the progress of the work. At the beginning of the school year the principal sends a letter announcing that the health program is under way. Joint parent and faculty meetings are held periodically, and this year study groups have been organized and leaflets and outlines prepared to help the parents follow more closely the actual health teaching at Garfield and apply it in their homes.

The general school betterment committee has taken up such problems as pupil absences, failures in subjects, evening study, humidity and tem-

perature of classrooms. The assembly committee provides a series of interesting and informative programs which present some phase of the health work to the student body. The publicity committee keeps the pupils informed concerning the progress of the program through the school paper.

And what of the results? Although there are no methods of measuring these accurately, some indication of progress can be obtained by certain lines of evidence, several of which were obtained not only from Garfield High School but also from another "control" school in which no health program was conducted.

Each freshman student at Garfield High School was given a physical and dental examination at the beginning of the school year, was weighed and measured monthly, and given an informal rating on posture and nutritional status; their attitude toward health was shown by their answers to the questionnaire, and their health knowledge by a test given at the beginning and again at the close of the course. All Garfield students answered a health habit questionnaire early in the year and submitted regularly to the rating of their lunches in the cafeteria. The three measures applied also to the students in the control school were: the monthly heights and weights of freshmen, the standardized health knowledge test for freshmen, and the rating of lunches of all students three times during the school year.

A final survey of figures on weights shows that 79 per cent of Garfield freshmen made more than the expected gain in weight during the first half of last year, while only 59 per cent of the freshmen of the control school made a similar weight gain. One hundred and seventy-four physical defects were reported corrected for Garfield freshmen, in contrast to 114 in the freshmen of the control school.

The results from the school cafeteria are probably of greatest interest. A comparison of the improvement noted in the Garfield cafeteria and in the control school showed that in the control school the proportion of "A" lunches remained practically the same throughout the year, and was never greater than 5 per cent; while the Garfield lunch room showed a rise from 11 per cent the first month to a steady level of about 30 per cent for the last four months. When the freshmen receiving the special health course are taken separately, the results are still better, being well above 40 per cent for two of the checkings.

The testimonies of parents, teachers, and children as to the benefits of the health program are evidence that cannot be reduced to exact numbers and percentages. Perhaps the greatest proof of their interest is that

the program is being continued and extended in the school and that the Parent-Teacher Association is planning to make it a major activity for the coming year.

Doubts are often expressed as to the possibilities of interesting high school students in the subject of health. At Garfield both boys and girls have followed the course with interest and benefited by it. Some have insisted that their mothers visit the class, and several mothers have reported to us that the course has also influenced other members of the family to form better living habits.

Health education in the elementary schools. The health education plan as first projected by the National Dairy Council was designed for elementary schools equipped with lunch rooms. In adapting this original plan to elementary schools not so equipped, the approach remained essentially the same, but the attention, formerly focused on the pupils in the lunch room, was shifted to the homes, and a special effort was made to develop the interest and cooperation of the parents as well as the pupils in the program. During 1931–32 the modified plan was carried on in six Akron schools and is now operating in twelve.

The health instruction is handled through the regular school channels, the supervisor of the elementary education being in direct charge of the work. The principals are responsible for the program in their own buildings. The classroom teachers present the health lessons. They are provided with teaching outlines which include subject matter and suggest method. Each school is equipped with reference books for the teacher and small libraries of health texts for the children.

The Akron City Health Department (which, as a matter of school routine, conducts the physical examinations in all city schools) has introduced into the twelve schools Detroit's system by which the classroom teacher makes a preliminary health check-up on the pupils in her room. The nursing service in the schools and the correction of physical defects are also provided for by the health department. The school dentist examines the teeth.

The National Dairy Council provides the teachers with outlines and materials for presenting the lessons and assists with all phases of the program.

The plan of home-school cooperation enters into every aspect of the health program. At the introduction of the program parents in each school district are urged by special invitation to attend a meeting to discuss plans for the health work in their own school. By meetings, interviews, school and home visits, this spirit of cooperation is systemat-

ically fostered throughout the school year. As in the high school, a special plan for still more effective home-school cooperation is under way during the current year.

The teaching outlines are divided into eleven units and are prepared for three grade levels. Such topics as sleep, milk, lunch, exercise, and community health are among the subjects treated. The order in which the units were presented last year in the Akron schools was determined on the basis of the replies to a health-habit questionnaire filled out by all pupils during the previous spring. The teachers are not held rigidly to one method of presenting the health material. In some schools a definite period is set aside for health instruction; in others, the material is integrated chiefly with the classroom subjects. Since the program is set up on an experimental basis, certain activities are carried by all teachers as part of school routine while the study is in progress. For example, the teachers periodically check the daily health habits of the pupils, particularly those over which the child has control and those put into practice during the school day. Each teacher weighs her pupils once each month, and at the end of each teaching unit she makes a written report regarding her experiences with the unit.

Those who have seen this plan in operation have been impressed with the enthusiasm with which the teachers are doing their part. Untrained for the most part in the health field and with a minimum amount of supervision in this phase of their teaching, the teachers have imbued pupils and parents with their own spirit in a truly remarkable way. Several considerations may account for this, of which two appear to have special weight. In the first place, the fact that the teacher has charge of the preliminary physical check-up, the daily inspection, and the monthly weighings of her pupils enables her to become acquainted with the physical condition and needs of each child. She is thereby motivated to emphasize those aspects of the health material most helpful to her pupils. Secondly, the simple teaching suggestions, as found in the outlines, give her tangible background material upon which to construct her own health lessons.

SIGNS OF THE TIMES

THE FUTURE PROMISE OF FARM LIFE.[1] What of the future of farm life? What turn is farming going to take? Will capitalism and industry crush agriculture? Will the small farm survive? Is farming going to become a mode of living, or is the farm merely to be a place to make money? Are we going to have peasantry?

These are among questions now being asked most frequently, even by leaders. They betray a very wholesome concern about the future of agriculture. That there should be concern there is no doubt. It is undoubtedly true, however, that there is less real reason for apprehension now than at any time in the history of the industry. It is generally conceded that the very security of the nation depends upon a sound agricultural life. That is the new national point of view, a point of view born of the sobering processes of bitter experience. Couple this with the fact of the most intelligent leadership the industry has ever had as well as the most intelligent and best trained rural public the nation has ever had and we have the fundamental reason for looking hopefully to the future.

The development of recent years has forced upon us all the realization that nationally agriculture must be regarded from a new angle, that this industry must receive its rightful share in the national income. Had agriculture shared as it should have shared in the national income, even during the last decade, industry would have had a reserve of buying power that would have affected every factory, every railroad, and every bank; and that undoubtedly would have tided business safely over the period of the depression. The exploitation of agriculture has had much to do with booms, wild speculation, and the train of evil consequences that have followed. When agriculture receives her fair share of the national income this fact of itself will exercise a restraining influence upon all types of exploitation and expansion and will at the same time provide a reserve of buying power necessary to conservative, substantial progress of all types. That agriculture some day will secure a fair share of the national income seems more certain now than ever. The pro-

[1] A talk given at a luncheon of the department of extension service, American Home Economics Association, Atlanta, June 23, 1932.

found readjustments taking place at the moment are helpful definitely and inevitably to that end, an end that should be achieved as speedily as possible.

Agricultural intelligence of the present-day type is a new factor, and the most powerful of all affecting rural development. A trained leadership armed with facts is the beginning of progress. But the rank and file must be trained also. That we shall have.

We have reached the point in national development where organization and long-time planning in agriculture are recognized as basic necessities if we are to expect improvement. As a matter of fact we can look to organization and to comprehensive planning to do more to shape profitably the course of farm life than can be accomplished in any other way. Attempts to solve the agriculture problems that lie outside organization, and adequate and free opportunity to plan can bring little of lasting value. An organized and planned agriculture fitted into the broad outlines of a definite national agricultural policy is indeed the answer to the questions that we have asked. But in matters of taxation, tariff, and the like, we must have unhampered opportunity to plan.

Speaking generally, so far as we see now, the agriculture of the future is going to continue to be a mode of life, retaining all that we found wholesome in the past but embracing those readjustments necessary to the more intelligent tilling and management of the soil and the more intelligent and more satisfying management of the farm home.

Lacking a national agricultural policy and agricultural stability, we have witnessed as a collateral result an almost complete collapse of our industrial system. Thinking men in industry, thinking men in finance urge now the necessity of a vigorous agricultural community as the only dependable commercial safeguard against the disasters of the recent past.

The influence of the graduates of our colleges of agriculture, the results of the experiment stations and laboratories, and the effect of vocational school work and 4-H Club work, together with the countless other aids to the development of leadership and the effective readjustment of agriculture, give us the answer as to whether or not we are to have peasantry. And just as certainly we shall not have a nation of mere farm hands—not in this democracy!

A balancing of all the facts leaves no doubt that the long-time future of agriculture is actually brighter than it has ever been, and this in spite of the disasters of the recent past and the universal gloom of the moment.
—C. A. Cobb.

YOUR LIBRARY ON TAP. The arrangement of private libraries is too often that which the librarian of a well-known women's college found after her return from a vacation. She had left orders with two young Japanese men to clean the library thoroughly. Their artistic sense so far outran their knowledge of the contents of the books that, quite unconscious of doing anything out of the way, they put all the big books together, all the little books together, all the medium sized ones together, and then grouped them by color. It was a work of art, but so far as subjects were concerned it was a hopeless jumble and the library staff spent hours solving the puzzle and reducing it again to order.

The first requisite in arranging a library is to classify or group the books so that those of the same subject stand together. A simple method that any intelligent student or housewife may use for classifying the home library is here suggested. It is based on the Dewey Decimal System in its simplest form, and a summary of the main classes is reprinted from *Decimal Classification* by permission of the copyright holder, Lake Placid Club Education Foundation, Lake Placid Club, New York.

000, general works (cyclopedias, etc.); 100 philosophy; 200, religion; 300, sociology; 400, philology; 500, natural science; 600, useful arts; 700, fine arts; 800, literature; 900, history.

Each class is divided into ten divisions and each division into ten sections. Summary of these may be obtained from the Forest Press, Lake Placid Club, in varying degrees of detail as desired.

After it has been decided under which heading a book should go, the corresponding number is written inside the front cover and on the back of the book. When there are a number of books of the same class they are put together and arranged on the shelf alphabetically according to the surname of the author. For example, the book *Friends of Mankind* is classified as 636, and since it is written by English, the initial "E" is placed under the class number. Should there be more than one book bearing the initial "E", numbers are arbitrarily assigned to stand for different authors, as E5, English, E9, Eyer; or they may be taken from the Cutter two-figure or three-figure alphabetic order tables, copies of which may be obtained from the library bureau division of the nearest branch of the Remington Rand Business Service, Inc. Works of the same author may be distinguished by using a small letter after the author number, as E9p to designate Eyer's poems.

After class and author numbers have been assigned, a catalog should be prepared. The card catalog is most satisfactory because it is ever

expansive. Plain 3 x 5 inch cards and a filing tray or box are the foundation for it. Cards may be typed or written legibly.

Class and author numbers are written on the upper left hand corner of each card. The main card for each book is the author card, with the author's name as heading. The surname is written first, beginning an inch and a half from the left end of the card and a half inch from the top edge. The title is written one line below the author's name and a half inch to the right, as

636 English, Douglas
E5 Friends of mankind

Another card is the title card. This is like the author card except that the title is on the first line and the author on the second, as

636 Friends of mankind
E5 English, Douglas

If the subject of the book is different from the title, a subject card is important because one often wants material on a subject but knows neither the author nor the title of a book which treats it. On this card the author and the title are dropped down one line each and the subject takes the top line, indented like the title. It is well to underline the subject heading with red ink or type it in capitals, as

636 DOMESTIC ANIMALS
E5 English, Douglas
Friends of mankind

Suppose that in this same book you come upon a good description of a silo. There is nothing in the title of the book nor its index to lead you to look for such an article there, but you want to be able to find it again. You put another card in with the subject heading "Silos," and put the page reference below the author number (unless the subject material is too scattered for paging), as

636 SILOS
E5 English, Douglas
p. 240 Friends of mankind

You now have four cards for this book. They are to be filed in your catalog alphabetically by the top line: 1. Domestic Animals; 2. English, Douglas; 3. Friends of Mankind; 4. Silos.

A catalog made thus is simple and efficient, especially if to it you keep

adding subjects that would otherwise be buried because of failure of book indices to record them.

The shelf list is made up of cards exactly like the author card for each book or set of books. These cards are filed by their class and author numbers so that the file shows the exact relative position of books on the shelves. It is entirely separate from the catalog, which is filed alphabetically. This whole procedure will acquaint the owner with his library as never before.—ANNA LOUISE TOMLINSON.

INSPECTION TRIPS FOR COLLEGE STUDENTS. In recent years senior and junior students in the School of Home Economics at Purdue University have enjoyed the advantages of three annual field or inspection trips to Chicago; and although each trip involves 300 miles of travel and two or three days of time, both students and faculty feel that the educational values of the practice warrant its continuance. The trips as planned at present are for seniors in child development classes, seniors specializing in institution management, and juniors specializing in clothing and textiles or taking the general teachers' course in clothing. These last two classes make up one group. The trips usually are scheduled in March or April.

Each teacher who conducts a group (consisting usually of from 60 to 75 pupils) makes all the preliminary arrangements. Since the expense is borne by the students, it is made as light as possible. The choice of hotels falls to whatever reputable, conveniently located one offers the best special rate. Likewise, the railroad company offering the lowest round-trip fare is selected. The most planning, however, is with the various establishments visited, since hours, types of talks, demonstrations, and luncheons are all arranged in advance.

The various courses anticipate these trips by acquainting the student with what she will see, hear, and do in Chicago. After the trip there are follow-up discussions and written reports. For example, at the beginning of the second semester in the clothing classes, the French dress designers are studied through assigned readings, lectures, discussions, and bulletin-board material. As a result, the student has a knowledge of the *haute couture* and the importation business, which gives a background for the hour spent in the custom-apparel rooms at Marshall Field & Company's retail store, where talks are given by the buyers and designers and imported dresses are shown with the name of the designer and the price. The follow-up work consists of the discussion of the relative merits of

these gowns as to price and design and the characteristics of the various designers.

Also, some time before the trips are taken each group studies the proper way to register and "tip" at a hotel; how to behave in a hotel, on the streets, and in stores; suitable dress for the trip; correct table manners; and the importance of promptness in meeting engagements. Fully a week before departure, a large map of Chicago is posted on the bulletin board so that the students may get the lay-out of the city and the location of places to be visited. A list of reputable and inexpensive restaurants also is posted for the use of groups which are not required to eat together.

From sixteen to twenty students in the institution management group are required to visit all places in one group and to eat their meals together. Different types of hotels, tea rooms, and cafeterias are selected for the luncheons and dinners. Frequently this group is treated to complimentary luncheons. This year Arnold Shircliffe of the Belden-Stratford Hotel prepared a "Purdue luncheon," carrying out the color scheme of gold and black in nests of ice surrounding the fruit cocktail, tulle covering for the table, and candles. The table was in the shape of a large P with a lighted fountain filling the top part. The last course was served from a tea cart carrying a large piece of ice surrounded by filmy spun sugar on which rested an ice cream mold elaborately decorated.

This group also visits an equipment house where someone in charge explains types and prices of equipment and the service a reliable house renders a buyer. The South Water Market affords them opportunity to see fish, poultry, cheese, fresh fruits, vegetables, and, in the meat section, a cutting demonstration by an expert. In the wholesale groceries they see a display of frozen fruits and vegetables and the grades and qualities of canned goods. Different types of kitchens and dining rooms are visited through the courtesy of such institutions as the Merchandise Mart, Montgomery Ward, University of Chicago, Harding's, Medinah Athletic Club, DeMets in the Board of Trade Building, and the Proviso Township High School.

This spring the class in child development visited a detention home where neglected, dependent, or delinquent children are cared for until a decision is reached relative to their future care; the juvenile court, where cases heard had to do with five children being taken away from an immoral mother, with a runaway girl, and with boys who had stolen an automobile; and the Institute for Juvenile Research, where explanations were made of its psychological research and cooperative activities. The

orthopedic and nutrition wards of a children's hospital received special attention, as did an informal clinic put on to show special bed equipment for spinal and tubercular cases and methods for special feeding care. A day was spent at Hull House visiting the Mary Crane Nursery School and the baby clinic rooms where examinations were conducted by doctors and nurses connected with the Chicago Child Welfare Association.

This year's group specializing in clothing and textiles had a conference with an outstanding educational director in store work and visited three exclusive shops importing fabrics, as well as Montgomery Ward's mail-order house, where they followed a mail order from the opening of the letter to the mailing of the wrapped and stamped package. This group also joined the general clothing and textiles group for a day at Marshall Field & Company's retail store, where a program had been arranged which included demonstrations and talks on facial make-up, millinery, lingerie, foundation garments, new imported and domestic yard goods, accessories, art needlework, and interior decoration. A tour of the entire store was made, after luncheon in one of its famous tea rooms. At Peacock's jewelry store these students were allowed to handle and examine precious wares; and at the Field Museum they gave special attention to the anthropology, jewelry, and Egyptian sections.

In addition to the trips made by the groups, such places as the Art Institute, the Planetarium, the Shedd Aquarium, the University of Chicago, and various interesting shops and stores are recommended for independent visits in leisure time.

In general, the trips are marked by remarkable cooperation and enthusiasm on the part of guests and "hosts," and satisfaction in educational returns on the part of those responsible for the plan.—MARIAN E. WILLOUGHBY.

HOME ECONOMICS IN THE EVENING SCHOOL. Homemaking courses in the evening schools of Paterson, New Jersey, are planned to help women who are preparing for or already struggling with the responsibilities of homemaking or who wish to qualify for a wage-earning job leading out of homemaking activities and also to stimulate the study of family relations and the wise use of leisure. Therefore, in deciding what courses to offer and what subject matter to include, consideration is given to the popularity of certain courses in previous years, the interest shown by answers to questionnaires distributed at the close of each class, and individual requests for help and advice.

The 1931–32 session offered sixteen weeks of work in elementary cookery, advanced cookery, home nursing and care of the sick, interior decoration, and hostessing. Registration in the five courses totaled 351, of whom 89 per cent were in attendance at the 302 class sessions, conducted at a total additional cost to the public school system of $358.44.

Preliminary announcement of courses offered helped the women to register for two or three classes in a variety of work. No fee was required, and a certificate of attendance was given to any woman attending three-fourths of the sessions of the class. (Incidentally, it may be noted that 24 out of one group of 29 received certificates.) In general, attendance is more regular for classes which meet for one or two long sessions a week than for four shorter periods.

When the classes met for the first time each woman was asked to register her name, address, age, occupation, special interests, why she was there, and what she would like to learn. The first lesson was either a demonstration or discussion to give the women an idea of the future lessons and yet make them feel they had accomplished something. In this, as in the general success of the class, the understanding and tact of the teacher play an important part. A teacher who has had marked success in teaching the interior decoration classes said:

> Interior decoration appeals to a diversified group, for all find in it a wealth of material for self-expression: housewives who wish to understand the principles underlying selection and arrangement of furniture and the use of color, the girl who contemplates a home of her own, clerks and factory hands who think of it as a stepping-stone to a better position, window decorators, men and women who feel the need of greater knowledge or inspiration, and the individual who finds joy in the manipulation of tools to create articles of use. To satisfy the need of such a group, the work each evening was divided into two parts, one devoted to the study of the subject, the other to the crafts involved with a demonstration of one type of application. Tie-dye, batik, block print, stencil, parchment lamp-shade making, book-binding, wood staining and finishing, plastic processes, and papering are some of the subjects covered by demonstration. The students then choose some object to actually create.

The present tendency for home entertainment and the desire to entertain properly, easily, and economically sent many young women, married and single, into the hostess classes. As one of the teachers said:

> When the season for out-door activities wanes, the need becomes apparent for making the home the greatest "night club" in the world; and before this course was finished many women, both young and in middle life, who had long depended upon commercial entertainment, had reached the conclusion that a hostess is seen and appreciated to the best advantage in her own home.

To this class last year came the girl who contemplated matrimony, the bride of one season, the maid in a private home, the typist, the secretary, the saleswoman, the teacher, as well as the mother who wished to keep pace with her daughters. Refreshments and service suitable for various social functions in the home were demonstrated and discussed. Several parties were held on special occasions, and in arranging for these the class was divided into committees and thus put into practice the knowledge gained. Games suitable for the home were played and simple prizes awarded. The cost of the food was reckoned and compared with the cost of similar refreshments outside the home.

The desires of one group in beginning cookery were summarized by the teacher as follows:

> My experience in teaching adults has been mostly with experienced housekeepers. However, in this group I had one mature woman recently married but who had previously "worked out." Since she had never done any cooking at home, she wanted to learn simple things like handling equipment and making a gravy. I had one girl who was eager to learn all she could about serving as she was a waitress in a home. Another was a cook who had had no special training but was able to cook simple things and wanted to learn new ones. Many young unemployed girls also attended this class. All seemed interested in table setting and serving and the preparation of new dishes for entertaining a few guests or for parties.

The cookery classes were divided into congenial groups of three, four, or five, since the laboratory unit kitchens are equipped for four. Family quantities were prepared and served and value, cost, short cuts, customs, and manners were discussed at all lessons. This year the discussion of the family budget was an interesting and integral part of every lesson, and special lessons dealt with such topics as the use of tough cuts of meat and individual budget problems.

Sometimes individual members of the class gave demonstrations of national or holiday dishes. One woman brought to class a board carved by her husband's grandfather and on it made cookies by designs of a hundred years ago. All this gave the whole group a higher regard for the work and spirit of the home and a greater respect for the traditions and standards of other peoples.—MARY M. BUCKLEY.

A HIGH SCHOOL UNIT IN HOME AND FAMILY RELATIONSHIPS. A program of curriculum revision well under way in the department of home economics of the public schools of Kansas City, Missouri, has resulted, among other things, in the introduction of

new units of work typified by the one on home and family relationships here described.

The first step in this reorganization was to evaluate the work then being done. A questionnaire was distributed to learn what types of work in the home the girls of Kansas City were actually doing and also what parents felt the school should offer as homemaking education. Analysis and study of the returns gave the basis for the new curriculum in home economics.

The information thus collected suggested part of the material to include in the unit in home and family relationships for the senior high school. However, this unit (organized in May, 1931) is also in part the outgrowth of a thesis study of the contribution made by home economics high school courses throughout the country toward the direct betterment of home life. This study was based on a questionnaire sent to 250 supervisors and instructors of home economics, a survey of city and state courses of study, a review of recent books in the field, and a résumé of current articles on the subject.

The pooled information from both these sources suggested the following as desirable attainments for high school pupils studying home and family relations: to acquire an interest in developing those traits that make strong character and forceful personality, to learn what constitutes a worthy member of the home and community, to desire to contribute one's share towards the improvement of the home and of the community.

The approach to the unit is made at the opening of school in the fall through a brief discussion of plans for the year, and as a part of the year's work, a self-improvement project is suggested. In the discussion of the improvement of one's personal appearance someone usually asks why some people are more attractive and agreeable than others. Another may wish to know why some people have more friends than others. Still another may suggest the things that a girl may do to make herself more useful in the community. Such discussion will without doubt lead back to the pupil's early training and may easily result in the conclusion that the influence of the home is a strong force in molding character and personality. In this way, the class is encouraged to state the problem: "What must one do to make oneself a more attractive and more useful member of the home and of the community?"

Solutions to this problem that would naturally be suggested by the class are developed in the unit as follows:

Develop character and personality by analyzing desirable qualities of character, personal appearance, conversation, and poise and stability.

Form worth-while friendships by evaluating friendships, qualities to be desired in friends, kinds of friendships, and means of acquiring friends.

Observe approved social customs in the home, at school, in public places, and on social occasions.

Make worthy use of leisure through home, outside agencies, nature, travel, vacations, and avocations.

Know and appreciate the purpose of the family by studying its origin, function, development, and changing character, as well as problems of the modern home.

Strive to make home life better by learning to appreciate common causes of family troubles, influence and responsibilities of individual members, responsibilities of the community to the home and family, and principles upon which to build a home.

Because of their importance, the last two topics should receive the major part of the time devoted to the unit, namely five weeks with five fifty-minute periods each. It can readily be seen that the material offered might well consume the time of a semester or a whole year. However, experiments indicate that intense interest may perhaps be better attained by concentrated effort for a short time only; hence the suggested time.

Care and precision must be used in planning and carrying out this type of work. It may best be kept very impersonal and taught largely through discussion of life experiences and carefully selected reading material, both informational and recreational.—BENETA REID.

EDITORIAL

HEALTH EDUCATION AND THE HOME ECONOMICS TEACHER. If any home economists have not awakened to the fact that now is their opportunity to prove their value to the community, they must be blind and deaf—blind to the obvious fact that more people than ever need and seek the kind of help that they should be able to give, and deaf to the pleas which leaders, both in and out of the home economics profession, have made at every home economics gathering for the last two years or more. To none have the opportunity and the challenge come more forcibly than to those who are concerned with teaching or organizing home economics work in the public schools. Miss Sweeny's stirring talk at the Atlanta meeting drove this home to all who heard her, and much of its inspiration remained even in the cold print in which it appeared in the October issue.

The most urgent and widespread need naturally has to do with nutrition, inseparably connected with the maintenance of bodily health. Dr. Roberts in her paper on page 961 puts the challenge even more forcibly. As she points out, home economists do not carry the whole responsibility for arousing public opinion to the prevalence of malnutrition and for teaching school children what they should eat and why; but they have usually claimed the leadership in such tasks, and the time has come when they must make good their claim or leave the field to others. That home economists can do a good job is shown in the account of the health education program in Akron (page 967). The general direction of this has been in the hands of Dr. Roberts and nutritionists of the staff of the National Dairy Council, and the work of putting the program into effect in the high school is being done by the former home economics teacher there.

Papers similar to these two were presented at the February meeting of the Department of Supervisors and Teachers of Home Economics, but before allowing them to be printed the authors wished to wait until more data from the Akron experiment could be worked in. As it now stands, Mrs. Martin's and Miss Davison's paper carries the work through the close of the last school year, 1931–32.

Those (and we think they are likely to be many) who wish to consider the possibility of working out similar plans for their own schools will be

glad to know that many of the materials for use in the elementary school program can be obtained from the National Dairy Council, 221 North LaSalle Street, Chicago, or from its local unit councils. A complete set of lesson outlines for the three grade levels costs $1.25; a set for a single grade $0.50. Each outline includes suggestions for textbooks and teaching materials. The high school material is not yet considered sufficiently finished for publication, but the Council can supply in mimeographed form a more complete report and more detailed figures of results than those given in the JOURNAL.

COOPERATION FOR BETTER NUTRITION. To spread the knowledge of good food and health habits, schools are of course vital agencies; but they need to cooperate with colleagues in other fields, both to learn what information to pass on, and to help pass it on to others besides the school children. How the specialist in nutrition stands behind a school program is illustrated by the Akron project. Miss Gillett's report to the White House Conference (see May issue, pages 404 to 406) showed the variety of the services which these workers render to all kinds of social welfare and health agencies. Several aspects of nutrition work in the federal government were brought out at the same meeting of the Department of Supervisors and Teachers of Home Economics at which the Akron work was described.

In speaking for the Children's Bureau, United States Department of Labor, Dr. Ella Oppenheimer asserted that in the interests of health education knowledge of food needs must become part of the working equipment of every home and knowledge of nutrition must become part of the instinctive heritage of the race. She also pointed out that while a well-rounded health education program in a community could only be realized through the cooperation of parents, doctors, dentists, nurses, social workers, and home economists, upon the latter almost exclusively rested responsibility for spreading the doctrine of food needs and protective foods as well as desirable information concerning the purchase, preparation, and use of all foods.

Miriam Birdseye, extension nutritionist in the United States Department of Agriculture, said that rural parents need and are anxious to know more of the value and signs of good health, to understand what constitutes a dietary well balanced for the child's growth and development, and how on the basis of family needs they can plan for an adequate yearly food supply which shall make the most of home-grown products. The

necessity for such planning is especially apparent, now that the farmer's cash income is so low. Dr. Hazel K. Stiebeling of the Bureau of Home Economics, United States Department of Agriculture, carried this thought of economic planning still further by showing that home economists today must see to it that the consumers' demand for food becomes adjusted to the highest development of national health. Recent dietetic studies were summarized to show that in spite of increasingly free use of dairy products, fruits, and vegetables, over half the families in this country are living on a food supply inadequate in one or more respects as judged by present knowledge of foods and nutrition. She brought out the fact that home economists, acting as local leaders, can render invaluable service in each community by stressing the desirability of planning for an optimal diet and by interpreting nutrition principles in terms of common articles of food.

ARGUMENTS FOR SUPPORTING HEALTH WORK. Health work in welfare agencies is so closely allied to health work in the schools that arguments used to defend the budgets for this work might well furnish practical suggestions for home economists interested in health education. Such arguments were studied last summer for the United Educational Program of the National Social Work Council, and the following paragraphs are taken from a summary of the information it received from about seventy institutions and agencies.

Among the stock arguments used pretty generally are: (a) the economic argument, namely, that cutting down on preventive work now will only result in an accumulation of unsolved problems for the future; (b) that the depression has made many of the existing services all the more necessary; (c) that the health of our children must, at all events, be safeguarded even if adults suffer; and (d) preventive work helps to cut down institutional population and to lighten the dead weight of domiciliary and custodial care.

In the public health nursing field the following arguments were used: (a) increased calls for service; (b) decreased earning power; (c) evidence that a given agency is the only one to cover needs in this field.

Institutions which have popularized themselves with the public through the activities of influential friends or well-planned and executed publicity have found it easier to obtain a favorable response from politicians.

Some agencies see a good result from the depression in the tendency toward valuable criticism and evaluation, especially in preventive work, as well as the elimination of outworn methods or less essential services such, for example, as fumigation.

The basic idea under almost every one of these points can be applied equally well to measures for promoting health education in the schools.

The report closes with the statement that school health work has suffered little retrenchment. That is encouraging as far as it goes, but unfortunately it never has gone very far. More health work in the schools would more than pay its way by preventing illness and increasing efficiency, and health education is a form which yields especially large results at relatively small cost.

GRADES ON THE LABELS OF CANNED FRUITS AND VEGETABLES. Dr. Armstrong's discussion on page 948 is exceptionally timely because of the Department of Agriculture's recent announcement that it will advocate informative labeling for canned fruits and vegetables. In late issues of several canning trade journals, Wells A. Sherman, specialist in charge of the fruit and vegetable division of the Bureau of Agricultural Economics, describes this policy and the arguments in favor of it. Much of what he says bears so directly on the consumer's ability to buy more intelligently that we quote rather freely:

> Canners hold heavy carry overs of many fruits and vegetables. The rate of movement into consumption is lower than in the past five years despite the reduction in prices. Few operators can finance an intensified advertising campaign. Millions of housekeepers are operating on decreased budgets. They are more than ever under the necessity of obtaining the most for their money. There is more emphasis on wise and prudent buying today than ever before. . . . .
>
> Since the times do not justify expensive experiments in the search for relief, why should the canner and the jobber not try the simple, truthful, and costless experiment of printing the commercial grade of the goods conspicuously on the label? We ask in all seriousness, why not?
>
> Is the housekeeper entitled in fairness to know the commercial grade of the goods which she buys? If she is, why not tell her? If she is not entitled to this information, why not?
>
> Is the canner entitled to a premium on his better grades? If so, why does he not label these cans with a plain statement of grade so that they will enjoy the consumer preference to which they are justly entitled? Would not conspicuous labeling Grade A (Fancy), Grade B (Extra Standard), Grade C (Standard), make merchandising easier, simpler, and safer all the way down the line? If not, why not?
>
> These terms are now officially defined and the qualities to be expected thereunder have been officially determined and promulgated for the principal canned vegetables and will be determined for the others as rapidly as the needs of the industry require. No canner or jobber need have any reasonable doubt as to exactly what is meant by these grades nor if he maintains uniform quality under each code mark need he incur any risk of misbranding his products by the use of these specific terms. If he wishes to assure himself that his merchandise meets the government grade requirements he can for an almost nominal fee of $3 have samples officially graded by the Bureau of Agricultural Economics to determine the exact scoring of his product. . . . .

It may be argued that if Grade A (Fancy) and Grade B (Extra Standard) are so labeled there would be nothing gained by labeling the next grade as Grade C (Standard) because if it is below standard grade the Food and Drugs Act requires that it be marked with a distinguishing substandard label. There may be merit in this argument and the industry and the buying public may eventually reach a common understanding that goods of the highest grade will be labeled Grade A (Fancy) or Grade B (Extra Standard), that substandard goods will be labeled as required by law, while the great mass of canned goods carrying no grade statement on the label will be understood to be simply standard merchandise. In this class would fall vast quantities of trademarked and private brand goods which in the main have always been standards but in which advertising may have built up a certain degree of consumer confidence.

. . . . . .

Most intelligent consumers know that the law provides penalties for misbranding. A plain statement of grade on the label would command instant attention as evidence that the manufacturer or distributor was assuming final and complete legal responsibility for the declared quality of the product. As supporting evidence in wholesale transactions any financially interested party can secure a certificate of grade from this Bureau either before or after the goods are labeled. . . . . Those canners or distributors who are first to adopt such a system will be first to establish a degree of consumer confidence which is not to be obtained through the advertising of a brand or trademark except at prohibitive expense.

. . . . . .

Mr. Sherman also calls attention to the fact that through the Bureau of Home Economics and the Cooperative Extension Service the Department of Agriculture is now able to make contacts with more housekeepers than could ever be reached before through official agencies, and that the amount of free advertising which awaits this advanced step by the canning industry could not be bought for all the millions that the industry has spent in advertising in the last century.

Demand for such a policy is said heretofore to have been more marked in the East than in the West, presumably because large-scale canning organizations on the Pacific Coast have spent so much in the national advertising of their special brands that they are less interested in officially defined grades. Dr. Armstrong's arguments have an added significance because they emanate from that part of the country.

DESCRIPTIONS OF FOOD PRODUCTS. Under the caption "Truth in Food Advertising" Dr. Margaret Chaney told in the August JOURNAL (page 705) how the ethical practice committee of the division of food and nutrition in the American Home Economics Association hoped to be of use to the membership at large. The committee, of which she is

chairman, was trying especially to be of service to teachers of foods who have difficulty in knowing the real value of some of the food products advertised so widely. As a first step, they proposed to select and furnish to the JOURNAL OF HOME ECONOMICS some of the data which are prepared by the Committee on Foods of the American Medical Association about foods receiving its seal of approval and which it regularly publishes in the *Journal of the American Medical Association*. The first installment of these special abstracts appears on page 1024, and others are to be issued monthly as long as that seems desirable.

The JOURNAL is glad to cooperate in this experiment of the ethical practice committee and sincerely hopes the plan will prove helpful to many readers. Any device is worth trying that will aid the teacher and the housekeeper to know what a proprietary food product really is. The editor will welcome the expression of opinion, favorable or unfavorable, as to the value of the page, the more so as space is more than ever at a premium just now.

RADIO AND EDUCATION. Several major points about radio as an educational force were brought home to those who attended the Atlanta Conference on the subject last June. To begin with, it was more than ever borne in on them that education by radio is a very different matter from education by the more usual means, especially from ordinary class or group instruction. In fact, education by radio is hardly more than the purveying of information by the spoken word, and cannot make use of countless devices, material and mental, visual and oral that the ordinary teacher uses to drive home the facts presented. In connection with a few special programs, written follow-up material is provided which the listener can obtain on request and which is intended to help him to genuine study, but these are the exception and usually imply a strong financial backing as well as the necessity of interesting the hearer enough to make him write in for it. As a rule, complicated subjects do not lend themselves easily to radio talks. Either they must be reduced to their lowest terms—and only the master of a subject can do that clearly and effectively—or else one or two outstanding aspects must be selected and dwelt on. Despite all its limitations, however, radio has such extraordinary possibilities as an educational force that no one in the educational field can afford to ignore it. As far as home economics is concerned, much is already broadcast under that name, and it is important for all professional home economists to have this a credit to their subject.

Except for the small number of programs for special groups such as those for school or university extension use, the usual radio program goes on the air to catch as many as possible of the general public who happen to be tuning in, and must fit its appeal accordingly. Few subjects can hope to hold them all, and each speaker must decide what sort of listeners he is likely to catch and bear them definitely in mind in determining what is to be given and how. The advice that Mr. Salisbury gives to home economists on page 954 is remarkably practical and concrete. Incidentally, the way in which he gives it shows that many of the things he recommends for radio talks are equally effective in an ordinary talk or paper.

Another point brought out at Atlanta was that though the large commercial broadcasting companies are willing to cooperate to what they consider a reasonable extent with such groups as the National Advisory Council on Radio in Education in putting on talks by suitable leaders in "highbrow" subjects like economics, sociology, and psychology, they do not feel much public demand for these. This must be partly because the people who really prefer such programs are not the kind who usually write "fan letters." If a person does enjoy them and would like more, it is his part to say so to the broadcasting station or the sponsors of the program. The same, of course, holds for objectionable programs. And remember that praise or blame for a program sponsored by a commercial organization is more effective if it goes direct to the concern that pays the bills than to the station that does the broadcasting.

Home economists who have had experience with radio as a supplement to extension work know that it is essential to advertise well in advance, and that definite arrangements for group listening are very helpful. If and when home economics subjects go on the air over a nationwide hookup such as has been given to economics and psychology, home economists will have a special responsibility quite apart from helping to provide speakers and follow-up literature. It will be up to all of us to make sure first that our friends listen in and then that those who approve and want more express this to the interests responsible for the use of the costly time on the air.

BRITISH BROADCASTING ON HOME TOPICS. Shall radio channels be supported by advertising as in the United States or by other means as in most other parts of the world? Much controversy rages on this question, as was shown by Mr. Armstrong Perry at the Atlanta Conference (see October JOURNAL, page 907). The proponents of adver-

tising claim that by no other means can adequate funds be provided for first-class programs and that public opinion is influential enough to regulate their kind and quality. The opponents claim that this last does not happen, that the public is exploited by the advertisers, and that such use of the air presents the dangers and injustices of any monopoly of public utility.

As a help in forming a fair opinion as to the character of programs under a non-commercial system, home economists will be interested to know how subjects in their field fare in England. There all broadcasting is done by the British Broadcasting Corporation, whose charter forbids advertising over the air and whose funds come from the small license fee paid by the owners of receiving sets.

At last spring's Radio Conference at Ohio State University, Miss Elise I. Sprott, who is on the staff of the British Broadcasting Corporation as liaison officer for women's interests, told how a day's broadcasting in England is always planned to provide "entertainment and information, instruction, education—call it what you like—in certain fixed and definite proportions." An hour and a half in the afternoon is set aside for the schools, and half an hour in the evening for adult education. Much information of educational value is also included in the general talks and news service. General talks on home subjects appear under these last categories, rather than under the educational, being of very mixed character, entertaining as well as purely informative. In addition, there is a regular period in the forenoon for special household talks. Says Miss Sprott:

> Our household talks for the past three and a half years have been planned on regular and definite lines. One day each week is cookery, one child welfare, and one parliamentary news, whenever the House of Commons is in session. During the summer months one day is usually devoted to out-door matters and the remaining two days have a variety of topics; books, foreign travel, or descriptions of life in other countries, education, the servant question, home decoration, and so on, all find a place at one time or another.
>
> In our cookery talks our aim has been to deal with practical recipes which can be prepared at a low cost. Occasionally we put on a talk on more fancy dishes, but usually even if we have famous chefs talking we bring them down to the level of beer and winkles, rather than the level of oysters and champagne. The reason for this is that from our correspondence we know that most of our listeners want to hear how to make the most of their incomes by varying the daily menus, rather than to learn how to cater for entertainments. That doesn't mean, of course, that at Christmas and other festal occasions we don't tell our listeners all about the more elaborate cooking that makes these times so enjoyable. But always material submitted is looked at from the angle of practicability and also for its food value. The science of the vitamins is very much

to the fore with us, as it is with you, and we try to link our talks together by not only advocating on Mondays the use of salads and fresh vegetables but on Tuesday having another expert to tell people how to grow them for themselves. Sometimes we get the two experts in one man, as with Professor V. H. Mottram, professor of physiology in King's College for Women, University of London, who is not only one of our greatest authorities on food values but a most enthusiastic practical gardener as well. Whenever possible we use the best expert available for any subject and we draw a good deal on the staffs of the domestic science colleges for our speakers.

. . . . . .

So much for cookery and our next most important subject is child welfare. There is today in Great Britain—and I expect it is the same over here—a great desire on the part of parents, and especially young parents, to learn as much as they can of all the developments which the study of the sciences of nutrition, child psychology, and so on, have brought about. . . . . Here again our aim has always been to get the very best experts available. . . . . Prevention is always better than cure and we have devoted a considerable amount of program space to talks on how to detect the first signs of abnormality in the growing child, how to distinguish between those things which occur in the natural course of childhood and those defects either physical or mental which if checked at the beginning may be prevented from developing into serious handicaps in later life. Both ante-natal care and the care of the very young child have been dealt with and the latest information made available. We have in Great Britain a fairly complete system of health examination for all children of school age as well as a large number of welfare centres and clinics for children up to the age of four or five. But people do not always understand why these things exist and the way to get the best out of them or where they are to be found, so that many of our talks have been intended to help them by teaching just how to set about getting this aid.

. . . . . .

One of our most interesting series about two years ago was a number of family budgets given by people whose incomes ranged from $2,500 a year to $5 a week. This latter was a young factory worker who lived in a hostel and paid a dollar a week for her room. We had a miner's wife, an agricultural labourer's wife, a high school teacher, a widow who kept a little shop, and so on. When this series was running we had a great many other budgets sent in by listeners. . . . . In all, about a hundred other housewives sent in very detailed budgets of family expenditures and these were analysed by a member of the London School of Economics in regard to rent, amusements, clothing, etc., while Professor V. H. Mottram . . . . discussed them from the food angle. Although the number was, of course, too small to make anything more than generalisations, we got enough interesting material to form a short supplement in our magazine *The Listener*. This year we have just been running another series, but on rather a different basis, taking one basic wage, round about $10 weekly, and having people with no family, a young family growing up, and a family at work tell us how they each arrange their household economics; and at the end of the series Dr. Sargent Florence, one of our leading economists, will compare and contrast the various budgets.

Another item of the British Broadcasting Corporation program which is of exceptional interest to all concerned with home problems is included in the adult education periods—but it has so many other points of value that it deserves an editorial to itself.

RADIO AS AN AID TO RESEARCH IN FAMILY LIFE. Last winter the British Broadcasting Corporation included in its adult education program a series of talks on "The Changing World," intended to give a survey of past and present tendencies in various divisions of human thought and activity. In connection with the talks on social science, a plan was evolved for asking husbands and wives among the interested listeners to fill in questionnaires (commonly referred to as the "Family Form") which would provide data on various significant changes in family life not covered or coverable by census findings. The committee in charge of drawing up the form was under Sir William Beveridge, head of the London School of Economics, and associated with him were representatives of various organizations and institutions which agreed to cooperate in distributing and collecting the forms. The whole plan and its significance were described in a series of radio talks during February, March, and April. The idea met with surprising interest, so that 50,000 instead of the expected 10,000 or 20,000 copies were issued. Up to the end of April, about 8,000 had already been returned, and more were still coming in. Yet more remarkable was the care with which the long and difficult questions were answered, despite the fact that even a person used to such work would need an hour and a half or two hours for the task. The returns are being tabulated by the London School of Economics. It is too early to predict their final value or conclusions, but Sir William Beveridge is already justified in saying:

> It may be that we have laid the foundations of a continuing study of changing social conditions such as has never before been possible.
>
> Whether this has been done or not, whatever comes of the scheme of investigation, I hope that the talks will have served the purpose of helping men and women throughout the country to think over the problems that centre round the fundamental institution of the Family, and to be prepared to deal with those problems, individually or collectively as occasion calls with broader views and more balanced judgment.

A more detailed account of this remarkable use of radio as a means of research is found in the little book "Changes in Family Life," noted on page 1004.

DEPARTMENT OF SUPERVISORS AND TEACHERS OF HOME ECONOMICS. Readers are requested to note that the address of Miss Mary M. Buckley, treasurer of this department of the National Education Association, is Board of Education, Paterson, New Jersey. We regret that it was incorrectly given on page 820 of the September issue.

RESEARCH

CHANGES IN SOLUBILITY AND ABSORPTION SPECTRA OF SILK FIBROIN CAUSED BY TIN WEIGHTING[1]

JULIA LURENA SOUTHARD WITH E. L. TAGUE

RAW silk as it is spun by the silkworm is composed of two filaments of fibroin held together by a coat of sericin. There is a wide variance of opinion concerning the origin and structure of these two filaments. Pierce (1) found that the material which was discharged from two sacs in the worm's head into spinerettes was neither gum nor fiber but a colloidal protein dispersion. The material taken from the sacs would not form fiber by evaporation or oxidation. He found two other tiny glands which are supposed to furnish coagulating material, but as yet there is no definite information concerning processes or chemical changes involved in the spinning of the fibers by the worm.

Most of the work on the composition and structure of fibroin has been done on the pure fibroin. The pure fibroin may be secured by saponifying the sericin with a very dilute (1 or 2 per cent) neutral soap solution.

Herzog (2) concluded from Röntgen diagrams of fibroin that it was a mixture of two substances, one crystalline and the other amorphous. Abderhalden and Mahn (3) said that if silk were a mixture of two substances, one crystalline and the other amorphous, as indicated by Herzog's Röntgen diagrams, it should be possible to separate silk into two parts after treatment with certain reagents which do not cause too extensive changes. They were able to precipitate a portion of the protein from a 50 per cent LiBr solution with a $CHCl_3$ solution of bromine. On analysis each portion was found to contain, among other compounds, glycine, alinine, and serine, three of the amino acids in fibroin. They felt that these results pointed to the homogeneity of fibroin instead of to a two-phase structure. Later, Abderhalden and Brockmann (4) precipitated fibroin from a LiBr solution with different concentrations of $(NH_4)_2SO_4$ but were unable to separate fractions with specific characteristics. Meyer and Mark (5) hold that the theory of

[1] A study made at the Kansas State College under the Ellen H. Richards Fellowship.

the structure of silk fibroin is analogous to that of cellulose (6). This view of Meyer and Mark is interpreted as support for Herzog's contentions that fibroin consists of two phases, a crystalline and an amorphous.

Stockhausen (7) has studied the physical and chemical changes caused by weighting the fibroin. These changes have a direct relationship to the durability of silk as a textile material. Stockhausen concluded from Röntgen diagrams of weighted silks that the fibrous structure characteristic of silk fibroin was partly lost upon weighting it with tin; that the fiber was partly converted into an amorphous form; and that, of the constituents accumulated upon the fiber, only the stannic acid had a crystalline structure. He further explained the processes of mutual adsorption by which the weighting is combined with fibroin in the form of silicic acid, stannic acid, and a phosphate.

We know that the amount of weighting on a silk fabric materially affects the properties of the fibroin. The effect need not, however, be undesirable. The following study was based on the differences in solubility of weighted silks. The purpose of the study was twofold: first, to determine what, if any, changes in solubility might be detected in the silk fibroin after weighting by the tin-phosphate silicate process; and second, to use the adsorption spectra of the silk solutions as an indication of whether the silk consisted of one or more phases as pointed out by Herzog and others.

Material. The fabric used was prepared at the Cheney Research Laboratories. One portion was unweighted, and two were weighted under carefully controlled conditions, one to 25 per cent above par or the maximum set by the Silk Weighting Committee (8), and the other to 40 per cent above par or to a point of overweighting according to that committee's tentative standard. The tin-phosphate silicate process was used. After the silk was received at our laboratory, the weighting was removed from part of a more heavily weighted piece by Appel's method (9). This gave four pieces of silk for study, which are designated as follows: A, unweighted; B, with weighting removed; C, weighted; D, overweighted.

Analyses. Small specimens of the fabric were carefully conditioned to constant weight in small weighing bottles in an Emerson conditioning oven. These were cooled, stoppered with ground glass stoppers, and weighed on an analytical balance. When the specimens were conditioned, a yellowing of the fabric at temperatures above 95°C. showed that the weighted fibroin was partly oxidized. The unweighted silks were not yellowed even at a temperature several degrees higher. The fabric was

put into solution by boiling about 20 minutes in a concentrated solution of hydrated calcium chloride, $CaCl_2 \cdot 6H_2O$. A solution of $CaCl_2 \cdot 4H_2O$ would not dissolve the fibroin. The more highly hydrated salt seemed to be necessary for solution. Johnson and Hawley (10), who used neutral salts for dissolving fibroin, have pointed out the fact that the hydrative quality of the salt is of more importance than its chemical nature and concluded that the water molecules of the fibroin hydrate cohere to those of the salt hydrate to produce solution. A lithium salt should be an excellent choice of solvent if this is true. If the protein molecule and the salt molecule are each associated with many molecules of water, thus lessening interfacial tension and the differences in density, one of the suggested conditions for keeping proteins in solution has been met.

Both the unweighted piece of fabric (A) and that with weighting removed (B) went completely into solution, the fibroin passing through a more or less transparent, sticky stage during the process. A large part of each of the weighted pieces remained undissolved: 47 per cent by weight of C and 56 per cent of D. The insoluble portion retained the appearance of woven fabric until the solution was diluted; then it readily fell apart into large particles of a white precipitate. The silk solution was filtered off and the precipitate washed until the filtrate gave no test for chlorides with $AgNO_3$ solution. The washing required much time for completion. The precipitates were dried at about 95°C. to a constant weight; then they were ashed at a low red heat. The ash was weighed, then analyzed for weighting; the fabrics were also ashed. Tin was determined volumetrically by reducing it to the stannous form and by titrating it with standard iodine solution. Silica was precipitated with ammonium hydroxide from a dilute acid solution and weighed as silicon dioxide. Phosphorus was precipitated as ammonium phosphomolybdate. The results of the silicon determinations are shown in the tables. The tin and phosphate determinations were not consistent enough to be, in any sense, called quantitative; therefore, they are not included in tables 1 and 2, the figures in which are averages of at least 10 determinations.

The average percentage of ash from fabrics C and D is in each case slightly higher than the average percentage of ash from the insoluble portions of the corresponding fabrics. The indications were that a small amount of weighting went into solution with the soluble portion of the fibroin. This portion which went into solution was not tin, however, as the precipitate alone gave a test for tin.

All figures for percentage of ash and percentage of insoluble portion are based upon the bone-dry weight of the fabric before analysis. The weight of weighting was found by subtracting the grams of protein, calculated from Kjeldahl determinations on the fabric, from the bone-dry weight of the fabric. According to the Kjeldahl determinations, 60.9 per cent of fabric C and 53.4 per cent of fabric D were protein. These percentages are in each case lower than those secured by removing the weighting by Appel's method and assuming that the de-weighted fabric was pure protein. The latter procedure indicated that 64.6 per cent of fabric C and 58.9 per cent of fabric D were protein. However, the results from the two methods, so very different one from the other, are considered to be in fair agreement.

TABLE 1

Average results of analysis of weighted fabrics

FABRIC	BONE-DRY MATERIAL	TOTAL WEIGHTING	ASH	SILICON IN WEIGHTING
	grams	*grams*	*per cent*	*per cent*
C, 20 per cent weighting	1.0758	0.4200	35.05	31.2
D, 40 per cent weighting	1.2960	0.6030	43.15	35.7

TABLE 2

Average results of analysis of insoluble portions of weighted fabrics

FABRIC	BONE-DRY MATERIAL	TOTAL WEIGHTING	INSOLUBLE PORTION	ASH	SILICON IN WEIGHTING
	grams	*grams*	*per cent*	*per cent*	*per cent*
C, 20 per cent weighting	1.2049	0.5059	46	34	30
D, 40 per cent weighting	1.4977	0.6824	56	42	31

The protein which was combined in the insoluble weighting complex was determined by the Kjeldahl method. Twelve per cent of the fibroin from fabric C and 23 per cent of that in fabric D were found in the insoluble portions. A comparison of protein determinations showed that a relatively large proportion of the protein was removed by a comparatively small increase in weighting. These results are in accord with what might have been predicted.

Absorption band studies. By determining the amount of protein in the original weighted fabric and subtracting that found in the insoluble complex, it was possible to arrive at a figure for the protein content of solutions to be used in absorption band studies. Kjeldahl determina-

tions could not be made for the solutions unless they were dialyzed to remove the calcium sulfate. Solutions of the silk protein were prepared for each of the four pieces of silk at each of the four following concentrations: concentration at which it went into solution, 1 per cent, $\frac{1}{2}$ per cent, and $\frac{1}{4}$ per cent. The carbon arc used was especially strong in the ultra-violet. A plate of absorption spectra consisted of a 3-second exposure of the arc (band 1 on the plates); a 3-second exposure of the solvent (band 2 on the plates), which was of the same salt concentration as the silk solution; and a 3-second, a 6-second, a 12-second, and a 24-second exposure of the silk solution (bands 3, 4, 5, and 6 on the plates). Plates were made for each of the four concentrations of each of the four fabrics. Those shown in figures 1 to 4 correspond to $\frac{1}{4}$ per cent protein solutions from fabrics A, B, C, and D, respectively, and illustrate absorption of the silk in solution. It will be noticed that the plates from fabric A and B (weighted and with weighting removed) show much more absorption than those which represent the soluble portions of the weighted silks. No quantitative measurements of intensities and other factors were made on the plates.

As the solutions were diluted and as the time of exposure increased, transmission increased in the region of 2500 A.U. Two distinct and widely separated areas of absorption of light occurred. Absorption decreased in the zone from 2500 A.U. to 2900 A.U. while that in the zone from 2200 A.U. (the limit of the quartz cell) to 2400 A.U. decreased but not in a commensurate manner. This in itself would indicate that the silk protein under investigation consists of at least two fractions whose maximum absorption points are very different. Since no two compounds thus far known have the same point of maximum absorption, and since these zones of absorption are so widely separated, it seems logical to conclude that there are at least two fractions of the fibroin. These findings are in accord with the interpretation Herzog (2) has given to his Röntgen diagrams of fibroin.

Protein combined with the absorbed weighting may be identical with either or both fractions or it may be an entirely different fraction with entirely different absorption properties.

The behavior of the absorption complexes indicated that they might be responsible for loss of viscosity and increased brittleness in the protein. Fabrics A and B formed a sticky, viscous mass as they went into solution, but fabrics C and D had a more or less brittle, insoluble portion which readily fell apart when the solution was diluted with distilled water.

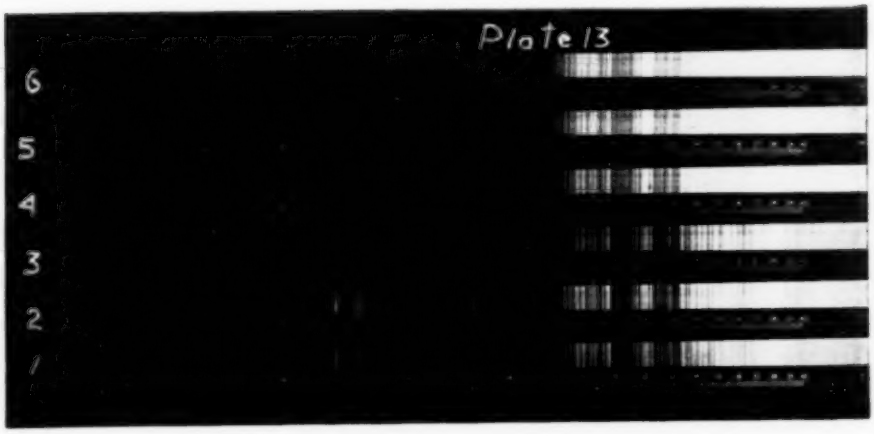

FIG. 1. ABSORPTION BANDS OF ¼ PER CENT SOLUTION OF FABRIC A

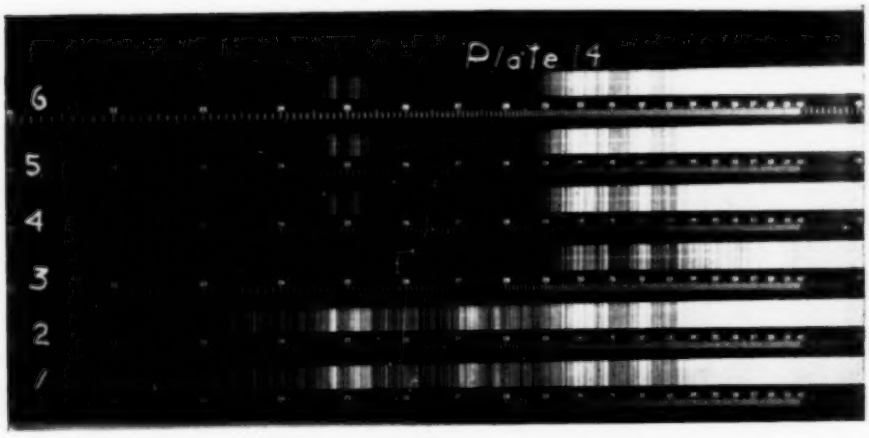

FIG. 2. ABSORPTION BANDS OF ¼ PER CENT SOLUTION OF FABRIC B

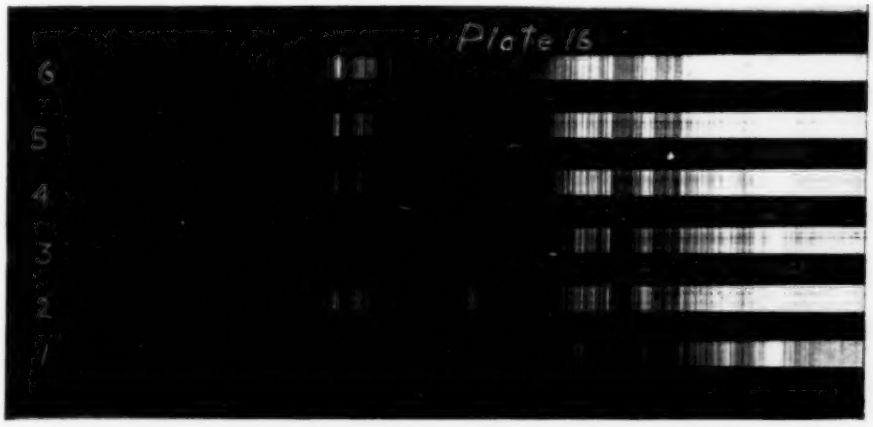

FIG. 3. ABSORPTION BANDS OF $\frac{1}{4}$ PER CENT SOLUTION OF FABRIC C

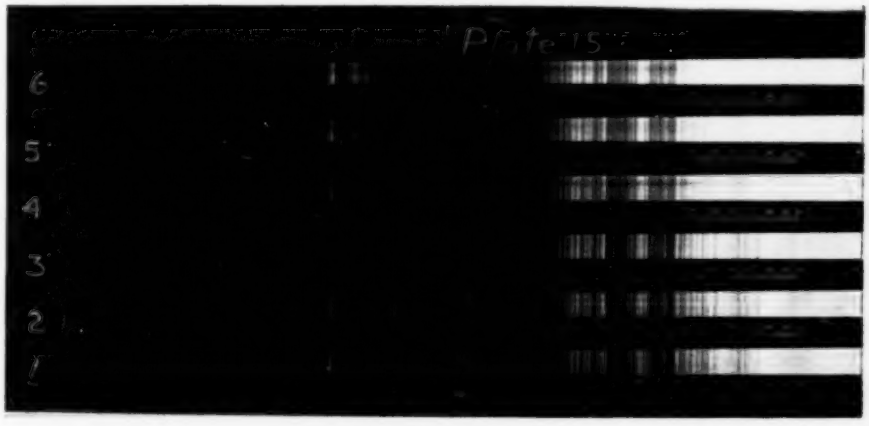

FIG. 4. ABSORPTION BANDS OF $\frac{1}{4}$ PER CENT SOLUTION OF FABRIC D

Conclusions. Absorption in the ultra-violet by the four silk solutions decreased with dilution and exposure in the following order: A, unweighted silk; B, silk with weighting removed; C, silk with 20 per cent weighting; and D, silk with 40 per cent weighting. Adsorbed weighting causes the formation of an insoluble complex which carries a large per cent of the protein out of solution. Two separate and distinct zones of absorption were found in the ultra-violet, showing that the protein of silk is composed of at least two fractions.

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BOOKS AND PERIODICALS

NEW BOOKS

Life Needs and Education. By FREDERICK GORDON BONSER. New York: Bureau of Publications, Teachers College, Columbia University, 1932, pp. 288, $2.00.

In this memorial volume to Frederick Gordon Bonser, composed of twenty-six papers selected from his rich contribution to education, teachers and supervisors of home economics will find specific consideration of their field in three: "Home Economics in the Elementary School," "Outstanding Problems Confronting Home Economics in the High School," and "The Purpose of the Home Economics Teacher Training Curriculum." In addition, all the other papers will be of value to the home economist alert to the need for adjusting her curriculum and procedures to the newer conception of education as it responds to the changing social order.

Each article and address was timely and significant when it was first written, for it rang true to actual classroom experience, upon which Dr. Bonser built his philosophy. A great proof of the validity of that philosophy is the sense of timeliness which still pervades every page of the book. He contributes to a progressive educational philosophy unconfused by radical tangents.

The book is enriched by Dr. William H. Kilpatrick's introduction—a rare interpretation of the personality of the man and an appreciation of his philosophy; also by the inclusion as a foreword of Dr. Bonser's own "Art Creed," classic both in spirit and in beauty of expression. There is also a frontispiece photograph of Dr. Bonser and a list of his publications, including eleven grouped under home economics.

The book is the result of an idea conceived by Dr. Bonser's wife, Edna M. Bonser, and joyously promoted by her with the help of several of his colleagues in Teachers College, Columbia University. No memorial to the modest spirit whom it seeks to share with present and future educators could more adequately interpret the personality of the man.

To one whose professional experience has been closely linked and constantly influenced for a score of years by personal association with this inspired teacher, the writing of a review of this memorial volume offers both a challenge and a privilege—the challenge of promoting an acquaintance with Dr. Bonser among those who were not so fortunate as to know him while he lived, and the privilege of sharing with those who loved and worked with him the sense of continuity of his influence as it is revealed through his pages.—CORA M. WINCHELL, *Teachers College, Columbia University.*

Homemaking, Home Furnishing and Information Services. Reports of the Committees on Homemaking—Housing and Family Life; Home Furnishing and Decoration; Home Information Services and Centers. Edited by JOHN M. GRIES and JAMES FORD.

Washington, D.C.: The President's Conference on Home Building and Home Ownership, 1932, pp. 238, $1.15.

In the first of these reports the committee of which Martha Van Rensselaer was chairman has attempted to present the influence exerted by the house on the members of the family and on family life, discussing for this purpose the general functions of the home, pointing out the research needed to complete our decidedly scrappy knowledge of the subject, and making a special study of the needs for family life in cities.

The committee on home furnishing and decoration, whose active members included several professional decorators, analyzed the present difficulties of the householder of moderate means who wishes to furnish his house with due regard to beauty, utility, and economy; prepared an exhibit of combinations of materials suitable for different rooms and purposes (here partially reproduced in pictures without color); and drew up a series of recommendations, among them a carefully coordinated scheme for a training school, institutes for teachers, homemakers, and commercial workers, and decorating service bureaus, all to function in cooperation with educational agencies.

The report on home information services and centers surveys the sources of information now available to home owners, home builders, and homemakers, in both urban and rural communities, and considers the assistance offered by commercial, professional, philanthropic, and educational agencies, whether in the form of printed material, lectures, demonstrations, consultations, or more formal instruction. To home economists an interesting feature is the fact that information on homemaking is more generally available and on the whole more reliable than on the other aspects of the subject. They will probably be surprised at the number and variety of homemaking centers and services, among them about a dozen well-organized urban home bureaus. The Cooperative Extension Service in Agriculture and Home Economics is an important feature of the picture. Recommendations are made for developing, coordinating, and enlarging present services, and a possible form of organization is suggested.

Changes in Family Life. By SIR WILLIAM BEVERIDGE and Others. London: George Allen & Unwin Ltd., 1932, pp. 160, 3s. 6d.

A series of four monologues and three dialogues given over the radio in England last winter, together with an informal account of the accompanying attempt to collect information on significant changes in family life through questionnaires to be voluntarily filled in by listening families. Sir William Beveridge, head of the London School of Economics, was chairman of the committee which prepared the "family form" and was the speaker in all the monologues and in two dialogues, the others being well-known leaders in special fields of the subject. The talks give clear, middle-of-the-road discussions of "The Changing Family," "The Family and the Population Question," "Nature and Nurture," "The Economics of Family Life," "The Family as a Social Group," "Some Problems for Solution," with a closing one on "The Enduring Family: A First Impression of the Returns." The form is given in an appendix. When the book went to press in April 8,000 of the 50,000 forms sent out had already been returned with unexpectedly good replies, and the London School of Economics was tabulating and interpreting them. (For further discussion of this pioneer attempt to use radio for social research, see page 994.)

Teaching Nutrition to Boys and Girls. By MARY SWARTZ ROSE. New York: The Macmillan Company, 1932, pp. 198, $2.00.

In this eagerly-awaited book the author synthesizes the experience which she and her associates have gained from experimental teaching, hoping by so doing to provide a practical guide for other teachers, especially those in elementary schools who "wish to promote health through intelligent use of food." While the procedures suggested have been subjected to careful scientific checks, both they and the suggested lesson outlines have been reduced to clear and simple form.

Hygiene. By FLORENCE L. MEREDITH. *Second Edition.* Philadelphia: P. Blakiston's Son & Co., Inc., 1932, pp. 802, $3.50.

This college textbook by a physician with wide experience as college teacher and physical director begins with the general principles of health maintenance in colleges, then takes up anatomy and physiology, pathology, hygiene, and mental hygiene. Special laboratory work is recommended, but no definite suggestions are included since "the laboratory work of the course is held to be the daily occupation of the student."

Modern Needlecraft. Edited by DAVIDE C. MINTER. New York: Charles Scribner's Sons, 1932, pp. 259, $5.00.

In addition to a long introductory chapter on decorative stitches and embroidery, this well-illustrated book includes sections on knitting, crochet work, dressmaking, millinery, mending, handbags, furniture covers and draperies, rug-making, and linens, and finally a chapter on teaching needlework. The contributors are mainly teachers or examiners in English schools.

From Thimble to Gown. A Manual of Sewing. By ETHEL VAN GILDER. Boston: Allyn and Bacon, 1932, pp. 344, $1.20.

The first unit in this textbook is devoted to construction stitches, processes, and problems and occupies nearly half the volume; the next, dealing with patterns, combines discussion of color, design, fabrics, and clothing economy and selection with the technic of using and adjusting patterns; while the third unit presents the finishing and care of garments and the origins of sewing tools and costume accessories.

Pattern and Dress Design. By JOSEPHINE F. EDDY and ELIZABETH C. B. WILEY. Boston: Houghton Mifflin Company, 1932, pp. 518, $2.75.

This addition to the Riverside Home Economics Series presents details of dress construction in a fashion intended to help the modern woman make dresses more stylish and becoming than those purchased ready-made for the same money outlay. Principles of pattern, fit, and design are so treated that the worker may develop independent judgment in applying them. More than a hundred sketches and diagrammatic drawings are included to clarify explanations. Although valuable as a reference book, it is organized primarily as a textbook for clothing construction courses in the colleges or technical school level.

Dress, Drinks, and Drums. Further Studies of Savages and Sex. By ERNEST CRAWLEY. Edited by THEODORE BESTERMAN. London: Methuen & Co. Ltd., 1931, pp. 274, 12 s. 6 d.

A discussion of the significance of these subjects in relation to anthropology and social development, posthumously edited from papers by the author of "The Mystic Rose."

The Craving for Superiority. By RAYMOND DODGE and EUGEN KAHN. New Haven: Yale University Press, 1931, pp. 69, $1.50.

In this "approach to a scientific doctrine of the craving for superiority," the authors attempt to synthesize the psychological and the psychopathological points of view, believing that since this craving "plays an important rôle in the development of personalities, social adjustments, and cultures, the student of human nature should make a serious effort to understand and evaluate it as a psychobiological process."

The Private Life of the Romans. By HAROLD WHETSTONE JOHNSTON. Revised by MARY JOHNSTON. Chicago: Scott, Foresman and Company, 1932, pp. 432, $2.24.

This well-known, readable treatment of the subject, now revised by the author's daughter, herself a Latin scholar, contains much information of interest to high school and college home economics students about the everyday manners and customs of the Romans. There are many well-chosen illustrations.

Principles of Chemistry. By JOSEPH H. ROE. Third Edition. St. Louis: The C. V. Mosby Company, 1932, pp. 486, $2.50.

Intended as an "introductory textbook of inorganic, organic and physiological chemistry for nurses and students of home economics and applied chemistry" of normal school or junior college grade, this book reflects the author's belief that too much time is often devoted to inorganic chemistry in curricula with but one chemistry course, and that enough physiological chemistry can be given in such courses to provide an appreciation of the chemistry of living things. Laboratory experiments are included.

Bridge Food for Bridge Fans. By DELLA T. LUTES. Boston: M. Barrows & Company, 1932, pp. 70, $1.25.

These menus, recipes, and suggestions for refreshments, cleverly assembled by the former editor of *Modern Priscilla*, are intended primarily for card parties, but will also stimulate the culinary imagination for other occasions.

Good Looks for Girls. By HAZEL RAWSON CADES. New York: Harcourt, Brace and Company, 1932, pp. 190, $2.00.

The good looks editor of the *Woman's Home Companion* gives practical advice on making the most of one's appearance by means of good health and hygiene, well-selected dress, and reasonable attention to the care of skin, hair, hands, and feet.

The Wisdom of the Body. By WALTER B. CANNON. New York: W. W. Norton & Company, Inc., pp. 312, $3.50.

The author's theory of the relation of the body's autonomic system to the self-regulation of physiological processes discussed simply and clearly for the general reader. The various chapters of the book deal with different phases of maintaining proper stability of the "fluid matrix" of the body. The short epilogue on "Relations of biological and social homeostasis" develops a possible parallel between the fluid matrix and the mechanisms for the distribution of products in the body politic, and points out that the more efficient the automatic control of these essential processes, the more society and its component individuals can enjoy "serenity and leisure, which are the primary conditions for wholesome recreation, for the discovery of a satisfactory and invigorating social *milieu*, and for the discipline and enjoyment of individual aptitudes."

Neighborhood Distribution and Consumption of Meat in Pittsburgh as Related to Other Social and Economic Factors. By JOHN H. COVER. Chicago: The University of Chicago Press, 1932, pp. 228, $2.50.

In the study here reported the general characteristics of five distinct neighborhoods in Pittsburgh are presented and more detailed information is given regarding the food purchasing habits of the households and the extent and methods of retail meat distributing agencies in each neighborhood. Described as "the first attempt to present a dynamic picture of the merchandising and purchasing of meats and other foods in relation to neighborhood life." Publication was made possible through the School of Commerce and Administration and the Social Science Research Committee of the University of Chicago.

World Friendship. Compiled and edited by EVALINE DOWLING. Los Angeles: Committee on World Friendship, Los Angeles City School District, 1931, pp. 270, $0.50 plus postage.

"A series of articles written by some teachers in the Los Angeles schools and by a few others who are likewise interested in the education of youth" brought together by the head of the English department of the Jefferson High School, long interested in the promotion of international understanding through the schools. Although the suggestions and references deal mainly with the broader aspects of the subject, home economics clubs might find some of them useful in developing international programs.

Animal Life and Social Growth. By WARDER CLYDE ALLEE. Baltimore: The Williams & Wilkins Company, 1932, pp. 159, $1.00.

This addition to the "Century of Progress Series" tells the layman what scientific study has revealed of the "home life of animals and plants" and presents many parallels and points of contact with human society.

ABSTRACTS

CHILD DEVELOPMENT AND FAMILY RELATIONSHIPS

GROWTH AND DEVELOPMENT

The effect of group training upon the correction of articulatory defects in preschool children, AGNES T. SOMMER. *Child Development* **3**, No. 2 (1932, June) pp. 91–103.

A controlled experiment on improvement of speech defects of nursery school and kindergarten children shows 57 per cent improvement in the trained group as compared to 28 per cent in the control group. Sounds in the final position were hardest to eliminate without training.

A genetic study of laughter provoking stimuli, FLORENCE JUSTIN. *Child Development* **3**, No. 2 (1932, June) pp. 114–136.

There was an increased responsiveness to laughter-provoking stimuli in three, four, and five year old children and decrease in the sixth year shown by 96 children, twelve boys and twelve girls at each six months level, selected from a cross section of the population of Minneapolis.

The theories of surprise and defeated expectation, of superior-degradation, of incongruity or contrast, of play, of relief from strain, and of the social smile were tested by actual situations, which proved most effective; verbal presentation, which came next; and pictures, which were least effective. Girls seemed more responsive to laughter-provoking situations than boys, and children of upper occupational groups more than those in the lower. There is a positive relation between the intelligence level of the child and the laughter response, especially in the incongruous situations. All six situations involved the elements they were designed to set forth; but whether they were recognized as such by the children or whether all children who recognized the elements laughed, it is not possible to say.

The preschool child's use of criticism, MADORAH E. SMITH. *Child Development* **3**, No. 2 (1932, June) pp. 137–141.

A study of the criticisms made by children from two to six years of age showed four types of unfavorable criticism; interference with self or possessions, failure to conform to wishes or social usage, lack of knowledge or skill, and undesirable personal traits. At first criticisms were made to others for the purpose of securing help; later they were more frequently directed to the person criticized. At every age unfavorable criticism exceeded the favorable. A comparative study of adults showed a significant increase in the proportion of criticism of personal traits, of dress, of failure to conform, and of favorable criticisms, with a significant decrease in criticisms of lack of knowledge or skill or of interference.

A study of emotional instability in nursery school children, MARY A. M. LEE. *Child Development* **3**, No. 2 (1932, June) pp. 142–145.

A study made in the Chicago Cooperative Nursery School of eighteen children between two and three years of age consists of 995 records of the shifts and of the level of mood. The author shows that it is possible to measure instability of mood and mood level, that they are closely related to the nursery school situation, that they correlate more highly with mental than with physical age or health, and that they tend to be affected in a definite way by such environmental factors as the play situation, sunshine, and presence of mothers.

Factors influencing friendships among preschool children, ROBERT C. CHALLMAN. *Child Development* **3,** No. 2 (1932, June) pp. 146–158.

The extent to which similarity in traits influences a child's choice of friends was tested by observing likeness in sex, chronological age, mental age, intelligence quotient, height, attractiveness of personality, and degrees of extroversion, sociality, physical activity, laughter, and social participation of 33 nursery school children in free play situations. The number of times each child was with every other child was used as a criterion for strength of friendship.

Boys have a slight tendency to form stronger friendship with other boys as they grow older which was not shown by girls or by boys and girls. Children of each sex tend to form more friendship within their own sex. Chronological age, sociality, and physical activities affect boy friendships with boys in the order named; social participation, chronological age, and physical activity affect girls. Similarity in mental age, height, extroversion, attractiveness of personality, I. Q., and laughter have no influence.

A study of sleep habits of two groups of preschool children, one in Hawaii and one on the Mainland, ALIDA V. SHINN. *Child Development* **3,** No. 2 (1932, June) pp. 159–166.

A comparison of sleep habits of nursery school children at Vassar College and at the Castle Kindergarten in Honolulu showed that the median length of nap is 40 to 90 minutes and that the frequency of naps decreased with age. The time required to go to sleep at night ranged from five minutes to 75 and was decidedly higher for the Vassar group. The length of night sleep and of total sleep decreased with age. The Vassar group tended to sleep from 10 to 45 minutes less. Humidity and temperature had little effect, although a tendency for longer sleep was shown with moderate temperatures rather than on coolest or hottest days.

Food selections of nursery school children, THOMAS F. VANCE. *Child Development* **3,** No. 2 (1932, June) pp.169–175.

Records of 44 children at noon meals in the Iowa State College nursery school are analyzed and the average rank for tasting and finishing of 86 different foods is given. The foods are then classified according to kind. Meats and apples rank first and onions and kohlrabi last. Compared according to method of preparation, broiled foods and sandwiches are finished first, soups and creamed dishes last. Combinations of food are not finished as readily as the separate foods. Taste preference and physical factors such as mechanical difficulties are important.

Guidance in a twenty-four hour nursery school, G. P. DRISCOLL. *Childhood Educ.* **8,** No. 10 (1932) pp. 530–532.

A description of the nursery school at the Vassar Institute of Euthenics during the summer when the children were kept 24 hours a day as a part of the parent-education program. It is felt that the 24-hour program is an ideal situation for guidance of the child and the establishment of routine habits and gives the teacher many opportunities which an ordinary nursery school does not offer.

Child welfare pamphlets. Based on the reports of the White House Conference on Child Health and Protection. *Bulletins of the State University of Iowa, Iowa City, Iowa.* Nos. 1–15 (1932).

A series of 15 pamphlets, varying from

7 to 10 pages in length, prepared by members of the Iowa Child Welfare Station from the committee reports of the White House Conference. Special emphasis is given to the specific recommendations of the committees. Physical growth and care, mental development, and problems of family adjustment are some of the topics included. The material is written very simply and could be used in high school classes as well as for adult groups. [On sale for 45 cents the set.]

MENTAL HYGIENE IN THE FAMILY

Mental hygiene aspects of the family, J. S. PLANT. *Family* **13,** I, No. 2 (1932, Apr.) 39–45; II, No. 3 (1932, May) 90–99; III, No. 4 (1932, June) 118–126.

"This paper represents, with some condensation, a series of seven lectures given to a group of social workers." Its approach is a positive one, namely to try to find out what are the elements which operate to hold families together in the midst of change. Mental hygiene is considered as a way of developing rather than a goal to be reached. The mental hygiene effects of physical conditions such as the health of the individual, poverty, crowding, lack of outdoor recreation, absence of ideals, illness and disease, and lack of minimal standards are considered first.

Intra-family relationships include what the child and the adult look to the family for, among which are security, attitudes towards authority, personal relationships, competition, and compensations. There are constant and normal conflicts between adults and children. The major factors of family disintegration are: preconceived ideals which are not in harmony with reality, failure to look at marriage as an educational process, inability to distinguish between love and independence, some effects of urbanization, and the demand for a fine and powerful emphasis upon the affectional ties in the family group.

In extra-family relationships the effect of vocational and academic adjustments of the parents and children, competition and protection in the family on social adjustments, and the search for family patterns in church, school, industry, and government are discussed. [Reprints on sale noted in J. HOME ECON. **24,** No. 9 (1932) p. 847.]

The successful family, an outline for the study of family problems, HELEN W. FORD. *Division of Home Economics Bulletin, No. 6. Kansas State College Bulletin* **16,** No. 7 (1932, July) pp. 1–32.

As indicated by the sub-title various problems of family life are outlined and questions raised concerning them, the answers to which may be found in the suggested references. The topics outlined are education for family life, the relation of premarital factors and of attitudes and ideals at the time of marriage, family relationships in the successful family, and the obligations of the successful family to its members and to society. Brief quotations from various authors are included. It was prepared for "those who are interested in studying either individually or in groups a few essential family problems." Suggestions for community or club libraries are given.

The physical and emotional problems created by prolonged illness, B. CROTHERS. *Ment. Hyg.* **16,** (1932, July), pp. 392–397.

A neurologist at a children's hospital suggests that in order to deal with the results of a prolonged illness the doctor, nurse, teacher, and parent need to get together and view the emotional results of their treatment and recommendations

as well as the physical difficulties. Practical suggestions are given.

Habits: their formation, their value, their danger, D. A. THOM. *Ment. Hyg.* **16,** (1932, July) pp. 398–408.

The importance of habits in the life of a child is stressed; the motives lying back of the child's behavior are analyzed; and the rôle of parents is pointed out.

A psychologist looks at mental hygiene, E. A. BOTT. *Ment. Hyg.* **16,** (1932, July) pp. 428–439.

Mental hygiene has gone through a cycle of development from the care of mental disease and defects, through the study of the causes and treatment of mental illness to the discovery and applications of principles that will help preserve mental health. It approaches the problem from the normal rather than the pathological point of view and involves the doctrine of "adequate equilibrium" rather than cause and cure.

Some of the new methods which it uses are: the study of people in situations rather than the cause and cure of symptoms; the study of home, industry, and schools as socially controlled laboratories; the control of motivation and learning; an analysis of healthy and unhealthy functions for the individual. The most recent begin with man as an integrated personality and study how he learns to adjust to a particular life situation in which he finds himself.

E. McG.

FOOD AND NUTRITION

Contributed by the staff of the Foods and Nutrition Division and the Food Economics Section, Bureau of Home Economics, United States Department of Agriculture

Early and late ripening fruits and their acid contents, R. MICCORINI. *Ann. chim. applicata* **22,** (1932, Jan.) pp. 10–16.

Pears, cherries, and peaches were picked when still green, when just ripening, and at an intermediate time, and the amounts of malic, tartaric, and citric acids in each were determined. Malic acid is present in larger amounts in the early fruits, while tartaric and citric predominate in late-ripening fruit. This makes it probable that fruit high in malic acid would thrive more in cooler climates and those richer in tartaric and citric acids in warmer climates.—R. L.

Variations in the weight of a given volume of different flours. I. Normal variations, E. GREWE. *Cereal Chem.* **9,** No. 3 (1932, May) pp. 311–316.

Studies were made to determine the factors causing variation in the weight of a given volume of flours; the difference in the weights of a given volume of different types of flour and also with respect to different flours of the same type. The flours included a large number from hard and soft wheats grown in the period 1926–1929, representing the four leading wheat producing regions of the United States.

Of the soft-wheat flours the heaviest came from Missouri, weighing 98.7 gm. per cup; the lightest from Maryland, weighing 79.9 gm. The variations in the weights of hard-wheat flours were less striking, the range being 111 to 114 gm. per cup. The results indicate that 100 gm., the generally used value for the weight of one cupful of soft-wheat flour, is too large and that 92 grams is more nearly correct.

It was found that uniform volumes could be obtained only after sifting the flour and that there was an appreciable effect on the weight per cup when flour sufficient for one or two cups is sifted at a time. Variations in weight were encountered when volume determinations were made by different individuals while the results obtained by each individual checked fairly well.—F. B. K.

Diets in poor law children's homes, Advisory Committee on Nutrition, Great Britain Ministry of Health. Published by His Majesty's Stationery Office, London, 1932, pp. 17.

In investigating the food served in various types of poor law childrens' homes in England, the committee examined diet sheets for several institutions and personally visited eight of these, observing the cooking and service of food, the source of the supply, its quality, quantity, and cost. Lack of uniformity in the method of purchasing and in the cost of food was found, and variations in per capita costs did not always correspond to those of prices. In general the food seemed to be well cooked and served, and the children better nourished than in ordinary homes of children of like class. The main faults of the diet appeared to be due to a desire to keep cooking to a minimum, a lack of knowledge of food values, and a tendency to monotony. The morning and evening meals were particularly poor, usually comprising only bread and margarine, cocoa, or tea. Milk and fruit were used in too small quantities. The appendix contains a diet sheet showing the quantity and cost of foods recommended for 200 children and includes menus for an eight-day period

with corresponding recipes. It is estimated that the weekly cost of the recommended diet would be about four shillings, six and one-half pence per capita if all of the provisions were purchased at contract prices.—H. K. S.

The criticism and improvement of diets, Advisory Committee on Nutrition, Great Britain Ministry of Health. Published by His Majesty's Stationery Office, London, 1932, pp. 14.

In connection with the investigation noted in the preceding abstract the committee indicated the calorie requirement of persons of different sex and ages relative to that of the adult man and a method of evaluating diets. A diet is considered satisfactory if it furnishes per man per day: 100 grams of protein of which at least 37 are from first class (animal) sources, 100 grams of fat, and 400 grams of carbohydrates. If the amounts of protein and of fat fall much below 80 and 50 grams per day, respectively, the diet is considered in need of improvement. The mineral and vitamin content of the diet are believed to be satisfactory if the daily food supplies one pint of milk per person per day; liberal quantities of cheese; one orange or one tomato, or a helping of raw salad; one ounce of butter or vitaminized margarine; and once a week in the winter some fat fish such as herring. In default of the fat fish, one-half teaspoon of cod-liver oil is recommended once a day—H. K. S.

The influence of bran on the alimentary tract, M. S. Rose, G. MacLeod, E. McC. Vahlteich, E. H. Funnell, and C. L. Newton. *J. Am. Dietetic Assoc'n* **8,** No. 2 (1932, July) pp. 133–156.

To show the laxative effect of bran in the diet several series of experiments were conducted. When 0.6 gm. of bran was fed to rats in addition to a basal ration adequate in vitamin B there was a marked increase in the weight of feces in half the cases and a moderate increase in the others. Leached bran from this amount of bran was also effective, but the ash from twice this amount was not. When the basal ration was deficient in vitamin B the effect of bran was much less marked. Thirty-two rats were used in this series of experiments. No pathological effect was observed on the tissues of the alimentary tracts of 22 rats subjected to histological examination after feeding bran 2 to 4 months.

Fourteen grams of prepared bran were added to the diet of each of 38 girls, aged 10 to 16, living in an institution where the usual diet was regarded as adequate. During 4 weeks on the bran the effect was distinctly laxative in half of the cases, not laxative in about one-sixth, and doubtful in the rest, judging by the number of defecations.

The addition of 26 to 34 grams of finely ground bran to adequate self-chosen diets of four healthy adult women had a marked effect which lasted through ten weeks on the bran supplement. In a fifth subject whose usual diet contained more than average roughage the bran was discontinued after 5 weeks because it was too laxative. Wet and dry weight of feces increased in every case.—C. C.

Factors in food influencing hemoglobin regeneration. I. Whole wheat flour, white flour, prepared bran, and oatmeal. M. S. Rose and Ella McCollum Vahlteich. *J. Biol. Chem.* **96,** No. 3 (1932, June), pp. 593–608.

Whole wheat, oatmeal, prepared bran, and patent flour in varying amounts were fed to anemic rats. Six grams of whole wheat and the same quantity of oatmeal yielding 0.192 mg. of iron daily regenerated hemoglobin to a normal level in six

weeks. The same results were produced by 1.8 gm. of prepared bran which yielded 0.2 mg. of iron. Hemoglobin was regenerated to a much less degree with the patent flour. Patent flour supplemented with copper, with iron, or with copper and iron in amounts to equal that found in 6 gm. of whole wheat did not in any case cause a regeneration of hemoglobin comparable to that produced by 6 gm. of whole wheat. Iron alone was better than copper alone, while the combination of iron and copper was best. If three grams of oatmeal were supplemented by copper and iron in amounts to equal the quantity of these elements in 6 gm. of oatmeal, regeneration of hemoglobin comparable to that produced by the 6 gm. of oatmeal alone resulted. It is concluded that factors other than copper and iron influence hemoglobin regeneration and that these are found in greater amounts in oatmeal than in patent flour. A hydrochloric acid solution of whole wheat or of bran ash was slightly less effective than the original food in hemoglobin regeneration.—E. P. D.

Results of supplementing the dietary of substandard workers with cod-liver oil and milk. ARTHUR D. HOLMES, M. G. PIGOTT, W. A. SAWYER, and LAURA COMSTOCK. *J. Ind. Hyg.* **14,** No. 6 (1932, June) pp. 207–215.

One tablespoonful of cod-liver oil and one pint of milk were furnished daily to a group of 65 underweight women industrially employed at tasks rated as light muscular activity. Their ages ranged from 18 to 45 years, the largest percentage falling between 20 and 30. Forty-five of them participated for one year while 18 continued on the test for a two-year period Records showed that the women in the year group gained an average of 2.6 pounds; those in the two-year group an average of 4.5 pounds the first year and 1 pound the second. There were fewer absences due to illness; menstrual irregularities were reported improved; and efficiency increased.—E. P. D.

Adequate food at low cost, RUTH OKEY and EMILY H. HUNTINGTON. *Pacific Coast J. Nursing* **28,** No. 5 (1932, May) pp. 279–283.

This article presents a series of adequate, low-cost family diets, embodying the most recent findings in nutrition and adapted to California conditions. Weekly food allowances in money and in kind are given for persons of different ages and sexes. A pint and a half of milk a day is allowed for children between three and nineteen, and a quart a day for younger children. Cod-liver oil is included in the diet of children under six. Adequate calcium for the adults is assured by the large amount of cheese in their diet. An unusually large allowance of fresh vegetables and fruits provides the necessary vitamins and minerals for all. Menus are appended to show that palatable meals are possible with careful planning and preparation. The cost of these diets varies from 21 cents a day to 36 cents (November 1931 figures) according to the age and sex of the person fed. It is recommended that five per cent be added to these costs when a monetary allowance is granted, partly as a margin of safety and partly to cover the costs of seasonings and flavoring vegetables. Seasonal substitutes of similar nutritive value are listed.—H. K. S.

Factors affecting the distribution of iron in plants, C. H. ROGERS and J. W. SHIVE. *Plant Physiol.* **7,** No. 2, (1932, Apr.) pp. 227–252.

The tissue fluids of plants having high pH values show, in general, very low soluble (filterable) iron content and very

high total iron and vice versa. The exception to such a generalization appears to be due to the differences in the power of various plants to retain iron in the mobile form against the precipitating influences of a high pH. These influences and their relation to chlorosis are discussed in the light of the results obtained by various workers. Iron accumulation usually occurred in tissues with high pH lying adjacent to others with relatively low pH. The combinations in which iron is present in these accumulations are non-mobile and, therefore, unavailable to the plant. No iron accumulations were found in plants having low pH tissues.—R. L.

Changes in the composition of the garden pea after harvest, H. A. JONES and C. S. BISSON. *Plant Physiol.* **7,** No. 2 (1932, Apr.) pp. 273–284.

In peas stored shelled and unshelled at 25°C. the most significant changes were the decrease in the percentage of sucrose and the increase in the percentage of starch. The sucrose decreased and the starch increased at a much more rapid rate in the shelled than in the unshelled peas.—R. L.

A study of shell texture of hen's egg, W. F. HOLST, H. J. ALMQUIST, and F. W. LORENZ. *Poultry Science* **11,** No. 3 (1932, May) pp. 144–149.

Uneven shell translucency was found to be caused by the presence of moisture distributed in a non-uniform manner throughout the shell proper. No relation was observed between this and shell thickness or porosity, keeping qualities, and shrinkage of the egg. It was observed that shell texture may change after the egg is laid.—M. C. S.

Relationship between breaking strength and the per cent of egg shell, C. L. MORGAN. *Poultry Science* **11,** No. 3 (1932, May) pp. 172–175.

In this study eggs were used from both S. C. White Leghorn and Barred Plymouth Rock hens. A definite positive correlation was found between the percentage of shell of an egg and its breaking strength.—M. C. S.

Mendel Anniversary Number, *Yale J. Biol. & Med.* **4,** No. 4 (1932, March) pp. 369–648.

This volume is dedicated to Professor Mendel on the occasion of his sixtieth birthday anniversary. It opens with a full page reproduction of the portrait of Professor Mendel by John Quincy Adams, followed by an appreciation by Graham Lusk.

Eighteen eminent scientists engaged in researches in physiology, chemistry, nutrition, pathology, and bacteriology contributed the other papers, representing phases of research problems in which Mendel was interested.—H. E. M.

THE HOUSE, ITS EQUIPMENT AND MANAGEMENT

A demonstration in modern housing, R. R. TAYLOR. *Am. Federationist* **39,** No. 8 (1932, Aug.) pp. 877–881.

This description of Chicago's Michigan Boulevard Garden Apartments which provide living quarters, playground, nursery school, and community center for 421 families of the $2,000 income group, with a reasonable profit on the investment, introduces a discussion of the possibility of reducing present construction costs by revising obsolete building codes, trade practices, trade union rules, financing, and taxation, and thus to stimulate building, provide adequate housing, and help restore economic stability.

A product of General Houses. *Architectural Forum* **57,** No. 1 (1932, July) pp. 65–72.

A description, with illustrations of the revolutionary designs, methods of construction, equipment, distribution, and financing, worked out by General Houses, Inc., for their standardized, but adaptable, small houses, which by the use of mass production, simplicity of field assembly, and adaptability to building conditions will soon make available for about $3,500 exclusive of land or furnishings, adequate and attractive homes for every man.

An industrial approach to housing, I. H. BOWMAN. *Architectural Forum* **57,** No. 1 (1932, July) pp. 73–79.

A description of three types of houses designed structurally around a central stair tower which forms the main support of the house. The houses are planned for mass production, shop fabrication, long distance hauling, and simple field assembly, and use only familiar methods and materials, easily obtainable and worked. No basement is provided; laundry, heater, and garage are on the ground floor, with living quarters above. Costs range from $4,000 to $6,000. Construction details, equipment data, method of merchandising, and illustrations are given.

Modern architecture, occupied, DOUGLAS HASKELL. *Architecture* **66,** No. 2 (1932, Aug.) pp. 77–84.

An American architect reports the satisfaction of his wife and their neighbors in the comforts and conveniences of modern German housing and discusses the modifications German architects are making in their earlier designs as the result of experience.

Six-dollar housing possible through design economy. *Eng. News-Record* **109,** No. 1 (1932, July 7) pp. 9–10.

Designs are presented for a low-cost apartment house of concrete construction which combines economies in space, layout, structural design, arrangement of equipment, and finish. It is estimated that costs, including the land at $1 per square foot, could be met by a rental charge of $6 per room per month.

Das "Mechanisierte Dorf von Professor Münzinger" [Professor Münzinger's mechanized village], EVA FÖRSTER. *Land und Frau* **16,** No. 32 (1932, August 6) pp. 539–540.

Near Biberach in Germany has been organized a cooperative farm on which the 10 families cooperating in the venture maintain full enjoyment of the individual property rights. A community house contains an electrified laundry and electrified bakery, shower and bathrooms with electrically heated water and up-to-date machinery for canning.

Selbsthilfe der Stadtrandsiedler: Das 1500-Mark-Haus [Self help of suburban dwellers: The 1500 mark house]. *VDI Nachrichten* **12,** No. 26 (1932, June 29) pp. 1–2.

The municipality of Mannheim has organized a building project involving the erection of one-family houses on the outskirts of the city. The price of the completed house is 1500 RM (about $375), excluding labor which is contributed entirely by unemployed men who receive state relief and who with their families are to occupy the houses. The houses contain cellars, two bedrooms, living room, kitchen, and rooms for chickens and pigs. The walls are built with one layer of bricks. Plumbing and electric light are not yet available. So far 300 houses have been erected.

An innovation in steel flooring, J. H. YOUNG. *Architectural Record* **71,** No. 6 (1932, June) pp. 413–417.

Descriptions and illustrations of a promising new steel flooring, developed through research, which is factory fabricated, light, easily assembled, efficient, permitting the carrying with easy accessibility of service lines.

Porcelain enamel for interior and exterior, C. B. ROWLY. *Architecture* **66,** No. 2 (1932, Aug.) pp. 107–108.

A discussion of new developments in porcelain enamel on steel which include beautiful color effects and surface textures, and are used for panels for outside walls, shingles, bathroom walls, wainscotings, baseboards, doors, and ornaments of various types.

Gummitapeten für Geräuschabschwächung [Rubber wall covering for noise reduction]. *Rauch und Staub* **22,** No. 6 (1932, June) p. 77.

The decrease in the sale of rubber has stimulated the development of new uses, among them a type of varnish containing dissolved rubber. When applied to walls, including those of plaster and cement, it dries, leaving a washable covering, said to insulate well against noise.

Heating water by solar energy, ARVY CARNES. *Agr. Eng.* **13,** No. 6 (1932, June) pp. 156–159.

Description and specifications are given for a practical solar heater designed at the Alabama Agricultural Experiment Station to supply hot water for household and dairy purposes. It stores from 58 to 84 per cent of available solar energy and can be constructed and installed for about $55. For continuous service an auxiliary electric, oil, or gas heater is necessary.

The practical application and advantages of approval requirements for gas ranges. R. M. CONNER. *A. S. A. Bull.* **3,** No. 6 (1932, June) pp. 171–175.

A discussion of the value to the consumer of these minimum standards set up by the gas industry which insure safe operation, satisfactory performance, and reasonably durable construction for equipment bearing their seal of approval. The approved code of 1932 for gas ranges carries changes and additions which cover developments in automatic lighter equipment and oven insulation, performance requirements for devices to prevent the escape of unburned gas, oven heating and maintenance tests, rust resistance of oven interiors, external temperatures of oven and boiler tops, and standards and name plates for ranges which burn propane and butane-air gases. Ninety per cent of the appliances tested fail to pass the first test. Approved appliances are rechecked regularly in factories, salesrooms, and homes to insure maintenance of standards.

Utilization of anthracite for domestic heating, A. J. JOHNSON. *Heating, Piping & Air Conditioning* **3,** No. 12 (1931, Dec.) pp. 1050–1054.

Conclusions, based upon experimental studies, are given with regard to the selection of sizes of anthracite for different purposes, and the selection, installation, and operation of mechanical draft units, automatic stokers, and magazine-feed boilers. The practical firing interval for a fuel is shown to be in direct proportion to the rate of combustion and closely related to the uniformity of burning. Proper ash-pit pressure for various combustion rates and coal sizes for use with mechanical blowers, their best location and handling are indicated.

Papers on aluminum problems. *Chem. Age* [London] **26,** No. 676 (1932, June 11) p. 538.

Abstracts of papers dealing with determination of aluminum in foods, spectrographic determination of small quantities of aluminum, and the physiological effects of aluminum. They lead to the conclusion that many workers with many subjects have thoroughly investigated the dangers which might arise from the use of aluminum cooking utensils and have found them non-existent.

Toxicity of aluminum compared with iron, nickel and other metals, G. BERTRAND and P. SERBESCU. Abstracted in *J. Am. Med. Assoc'n* **98,** No. 3 (1932, Jan. 16) p. 266.

The toxicity of aluminum when used in the manufacture of cooking utensils was shown to be similar to that of iron and less than that of nickel and copper. The quantities so introduced in foods are believed innocuous.

Tarnish-resistant silver alloys, K. W. RAY and W. M. BAKER. *Ind. Eng. Chem.* **24,** No. 7 (1932, July) pp. 778–781.

Chemists at the State University of Iowa have been studying silver alloys in an attempt to make a sterling silver which was non-tarnishable. Ordinary sterling silver is 92½ per cent silver and 7½ per cent copper. Since the presence of the copper makes silver tarnish more easily than in the pure state, it was thought that other metals might be substituted. Zinc had the greatest tarnish-resisting effect of any of the metals studied, but did not increase the hardness sufficiently to be used alone; tin ranked second, but neither one was completely satisfactory. Aluminum, chromium, silicon, beryllium, barium, and strontium were also investigated.

Consumer demand for electrical appliances, KENNETH DAMERON. *Bull. Nat'l Retail Dry Goods Assoc'n* **14,** No. 8 (1932, Aug.) pp. 542–543, 587.

An analysis of surveys of market demands in this field written for retail merchants but of interest to others concerned with the kinds and extent to which such appliances are used.

Vi skal faa leie elektriske apparater [We shall be able to rent electrical appliances]. *Elektroteknisk Tidsskrift* **45,** No. 21, III (1932, July) p. 8.

Some municipal power plants in Norway are beginning to rent electrical household appliances to families who could otherwise not afford to use them. The annual rental amounts to 15 per cent of the purchasing price. Other power plants are selling appliances on the instalment plan.

Vorteilhafte Süssmostentkeimung durch den elektrischen Strom [Effective sterilization of fruit juices by means of electric current], A. KARSTEN. *Land*

und Frau **16,** No. 32 (1932, August 6) p. 540.

The use of tasteless and odorless carbon electrodes has been found effective in sterilizing fruit juices. The strength of the current is regulated according to the acidity and temperature of the fruit juice. One apparatus, for use in wine bottles, will with a maximum strength of 6 amperes sterilize ¾ liter in 4 minutes. Other forms of apparatus are constructed for sterilizing larger quantities.

What to expect of a general maid, R. D. BLINKS. *Am. Home* **8,** No. 4 (1932, Aug.-Sept.) pp. 182, 211.

Discusses the need for a well planned work schedule, an understanding with regard to hours of work, modifications in certain formalities in service and uniform, and cultivation of a good employer-employee relationship.

Theorie und Praxis der hauswirtschaftlichen Buchführung. [Theory and practice of household accounting], MAX STECHER. *Hauswirtschaftliche Jahrbücher* **5,** No. 3 (1932, August) pp. 68–98.

The entire issue is devoted to household accounting. The development of commercial bookkeeping is somewhat theoretically discussed and its bearing on household accounting, which, however, is considered basically different because of the absence of a profit motive.

The home accident problem, GERTRUDE ZURRER. *Pub. Health Nursing* **24,** No. 7 (1932, July) pp. 400–402.

An intensive study of 300 home accidents leads to the conclusion that they result from no particular age, activity, location, or general set of circumstances, and that safety has not been sufficiently considered in planning homes and household equipment. By giving attention to safe practices, taking care to do things properly, and teaching safety at home it may be possible to influence the personal factor and reduce not only home accidents but those outside.

H. R. H.
M. C. H.

TEXTILES AND CLOTHING

Contributed by the staff of the Division of Textiles and Clothing, Bureau of Home Economics, United States Department of Agriculture

Quantitative determination of cotton, wool, silk, and artificial silks in mixed textiles, P. KRAIS and H. MARKERT. *Am. Dyestuff Rep't'r* **21,** No. 15 (1932, July 18) pp. 464–465.

A microscopic examination is made to determine which fibers are present, staining if necessary. For a mixed fabric containing acetate rayon, viscose rayon, silk, cotton, and wool the following procedures are recommended as giving approximate values and affording opportunity for cross-checking of values: (a) Treat with acetone; the loss in weight represents the acetate rayon. (b) Treat a part of (a) with calcium thiocyanate solution; the loss in weight represents viscose rayon and silk. (c) Treat another part of (a) with sulfuric acid; the loss in weight represents viscose rayon and cotton. (d) Treat a part of the residue from (b) with sulfuric acid; the loss in weight represents cotton. (e) Treat another part of residue (b) with caustic soda: the loss in weight represents wool. (f) Treat a part of the residue (c) with thiocyanate; the loss in weight represents silk.—O. H.

Garment dyeing—an aspect of union dyeing, A. J. CROCKATE. *Soc. Dyers & Colourists* **48,** No. 4 (1932, April) pp. 83–85.

The work of the garment dyer is made difficult by the action of light and atmospheric agencies not only on the colors in the fabrics but on the materials themselves. "Faded" portions dye in some cases lighter and in others darker than the portions which have been less exposed. After dyeing, faded stripes are apt to show up badly on curtains; faded portions of woolen curtains become darker, and of cotton curtains, lighter, than the general ground. The fact that fabrics have been rotted by exposure may not be evident until the article is wetted: curtains which seem quite strong in the dry state may fall to pieces when put into water.

Perspiration has a marked effect on fabrics, especially on weighted silk. Although the fabric may be only slightly discolored, it may be so rotted by perspiration as to give way when wetted. The affected parts may take the color differently, usually dyeing darker. One of the most trying problems of the dyer is to attempt to match the color of a garment by both artificial and day light. The dyeing of blacks on velveteen is difficult, and if the velveteen and silk are combined in an article, the velveteen must be ripped off and treated separately. If a garment of cellulose acetate silk goes through an ordinary dyeing process it will be subjected to an unduly high temperature and may come out a golden shade.—R. E. E.

Influence of various grades of wool on some of the physical properties of flannel. *Annual Rep't of the Director, S. Dak. Agr. Exp't Sta.* (1931) pp. 22–23.

Tests on Shropshire, Rambouillet, Crossbred, Caracul, and Hampshire wool woven into flannel of the type used for women's sport coats indicated that the tensile and bursting strength was greatest in the finest wool, namely Rambouillet, and least in the coarsest or Caracul, and that the others varied in the order of the fineness of their yarn. The coarser fabrics, which shrunk the most, gained in tensile and bursting strength after

shrinking, while the finer ones lost a little. The finer materials stood up better under abrasion than the coarser both before and after shrinkage. Extracting the fat reduced the tensile strength of all the fabrics, but in this case the loss in strength bore no significant relation to the fineness of the fiber.—M. B. H.

Textile notes, GEORGE H. JOHNSON. *Bull. Laundryowners Nat'l Assoc'n* **15,** No. 5 (1932, July) p. 15.

Samples of work clothing were tested for shrinkage under commercial laundry conditions. The lowest warp shrinkage obtained was 2 per cent and the highest, 5 per cent. The conclusion is drawn that if work clothing giving 2 per cent contraction is cut slightly oversize in the sleeve, the collar, and the leg length, the product will be satisfactory to the consumer. From shrinkage experiments with shirting materials, it is recommended that shirts made from materials which shrink 2 per cent or less in laundering should have collars originally ¼ inch above the stamped size and sleeves ½ inch oversize. It seems agreed that the label "preshrunk" may be used on materials in which the shrinkage does not exceed 2 per cent.—K. M. D.

The research chemist looks at consumer textiles, EPHRAIM FREEDMAN. *Am. Dyestuff Rept'r* **21,** No. 13 (1932, June 20) pp. 388–399.

An experiment is being conducted at the R. H. Macy & Co. department store in New York on the consumer's sensitivity to color changes in fabrics. A Sheldon colorscope is used to rate differences in shade between new and washed samples of the same fabric. The judgment of a dozen or more customers as to whether the fading is sufficient to consider the fabric not washable is noted independently and correlated with the difference shown by the colorscope. The results obtained thus far indicate that women are more color sensitive than men, and that it takes much smaller differences in color intensity to cause dissatisfaction with some colors than with others. The firm has set up minimum specifications for water proof materials, for tensile strengths of ten woven fabrics, bursting strength of five knit fabrics, washability, composition of fabrics, resistance to abrasion and fastness to light, perspiration, and sea water; these specifications are given in the article. A brief account of the discrepancies found between price and quality in silks is included.—O. H.

Some aspects of the structure and properties of the rayons, HAROLD D. SMITH. *Am. Dyestuff Rept'r* **21,** No. 18 (1932, August 29) pp. 529–534.

All present-day rayons are made from cellulose, and the finished product is still cellulose in all except cellulose acetate. Native cellulose fibers are made up of ring shaped glucose residues joined to one another by an oxygen atom to form long chains or thread molecules. These are grouped parallel to one another into long slim bundles or micellæ, which in turn are packed into the visible fiber in orderly arrangement, parallel to each other. In preparing a spinning solution for rayon manufacture, the fibers are split apart into micellæ and micellar fragments, and the orderly arrangement is lost. A considerable amount of realignment of the thread molecules into micellæ occurs when the spinning solution is forced through spinerettes into the coagulating medium, but x-ray examination of the rayon filament shows that the micellæ are matted in the filament, like fibers in a felt, unless the rate of reeling up the filaments in drawing them out of solution is much more rapid than the rate at which they are extruded

through the spinnerettes. This stretching of the still plastic mass tends to pull the micellæ into line parallel with the direction of the filament axis, and gives "stretch-spun" viscose of from 1½ to 2½ times the strength of ordinary viscose. The increase in strength is explained by assuming that the strength of the filament is determined by the strength of the attraction between the micellæ. This attractive force is greater the larger the area of mutual contact between adjacent micellæ; the maximum area would be obtained by perfectly parallel alignment. The tendency to absorb moisture decreases with increasing parallelity of the fibers so that stretch-spun viscose rayon retains more of its strength under conditions of high humidity than ordinary viscose rayon because it absorbs less of the moisture.—O. H.

A method for simultaneously making a large number of perspiration tests, JOHN N. DALTON. *Am. Dyestuff Rept'r* **21,** No. 15 (1932, July 18) pp. 450–454.

The American Association of Textile Chemists' and Colorists' method for testing fastness of color to perspiration was modified so as to make it possible to test 56 samples simultaneously. Results were obtained which compared satisfactorily with the effect of perspiration in actual wear. The apparatus consists of a 12-inch bell jar set on a ground-glass plate and forming a desiccator when sealed with vaseline. Under the bell jar is a circular double test-tube rack which accommodates 56 test tubes; this surrounds a base supporting three perforated shelves, one above another, large enough to hold six-inch porcelain desiccator dishes. Sulfuric acid of 93 per cent strength is used in the desiccators. Worsted samples weighing 3½ gm. were tested, immersing them in the acid and alkaline solutions recommended by the Association and wringing them in a toy wringer with adjustable wing nuts for regulating the roller pressure to leave about 6 gm. of solution in each sample. (Details of the A. A. T. C. C. method may be found in the 1930 Yearbook of the Association.)—O. H.

The strength of textile fabrics and their satisfaction-giving qualities in conditions of normal use, I. GUILFOYLE WILLIAMS. *J. Textile Inst.* **23,** No. 7 (1932, July) pp. P161–P170.

The need for the study of the satisfaction-giving qualities of fabrics is becoming increasingly important since lighter and necessarily weaker fabrics are in demand and synthetic fibers of inferior strength to the natural fibers are extensively used. "Normal stress" designates the maximum tension to which a fabric may be subjected in conditions of ordinary use. The life of a fabric may be expressed by the formula: original breakdown strength minus normal stress, divided by rate of deterioration or wear, equals life of fabric. Direct measurements of normal stress under controlled conditions is desirable, but another valuable method is testing worn out or discarded fabrics. Results on a number of materials are given in an appendix. Tests on fabrics which tore in use or which had been discarded as worn out show that for a wide range of uses the normal stress may be taken as equal to a tension of 40 lbs. on a 4 inch grab test or as a pressure of 37 lbs. to the square inch.—M. B. H.

Cotton storage bags for rugs. *Melliand* **4,** No. 5 (1932, Aug.), p. 303.

Khaki canvas bags cylindrical in shape are now available commercially in a variety of sizes to inclose rugs of various dimensions from 4 x 6 ft. to 12 x 18 ft.

The bags may be closed by zipper fasteners at one end and are equipped with straps. The canvas material has been chemically treated so that the bag is practically moth-tight when closed. Clean rugs may be stored indefinitely and remain immune from attack. The bag may be used repeatedly.—K. M. D.

Full dress for a sunbath, MARGARET HOUSE IRWIN. *The Parents' Mag.* **7,** No. 8 (1932, Aug.) pp. 23–47.

The ability to absorb water and transmit ultra-violet light are two important health factors about clothes.

The rays of the sun are made up of small units of energy which penetrate the top layers of skin and come in contact with a chemical compound called ergosterol. The rays of light transform ergosterol, giving it the properties of vitamin D, which enters the blood stream and is used by the body.

Tests of silk, woolen, cotton, rayon, and celanese fibers made at the U. S. Bureau of Standards showed that unwoven rayon fibers transmit the most ultra-violet light. Cotton came next, then celanese, silk, and wool. However, in woven fabrics, 90 per cent of the transmission of ultra-violet came through the interspaces and only 10 per cent through the fibers themselves so that openness of weave is far more important than the composition of the fabrics. It was also found that white, undyed fabrics are more penetrable than colored ones.

Tests of woven fabrics made at Utah Agricultural College and at Iowa State College showed that linens, rayons, and cottons are more penetrable to ultra-violet light than other fabrics.

As growing children need sunshine, their clothing should be made of fabrics that admit sunlight.—M. S.

New clothes for baby, MARGARET SMITH. *Hygeia* **10,** No. 6 (1932, Aug.) pp. 694–696.

New designs for baby clothes developed by the U. S. Bureau of Home Economics are described and illustrated. The garments are designed to permit free activity of all parts of the body, easy, quick dressing, and convenience in laundering.

Slips cut on the bias rather than lengthwise are a new feature in infants' wear. The garments are neat and straight in appearance, yet they will readily stretch either lengthwise or crosswise. Made with long or short raglan sleeves, these bias slips are practical for cool weather, while for mild days a sleeveless one-piece design is comfortable and attractive. Bias slips are also economical as they require less material than those cut lengthwise.

Full-length front openings are convenient for dressing and laundering; they also permit the garment to spread and allow greater freedom for kicking, while a generous lap affords adequate protection. Fastenings used on the slips are ties fashioned of twistless tape; they are made firm at the ends and drawn through worked loops. Materials for infants' slips should be soft, fine, and durable; the trimmings, attractive, durable, and non-irritating to the baby's skin.—C. L. S.

DESCRIPTIONS OF ACCEPTABLE FOOD PRODUCTS

The following abstracts of statements published by the Committee on Foods of the American Medical Association have been prepared by the ethical practice committee, division of food and nutrition, American Home Economics Association, in the hope of aiding home economics teachers to obtain reliable information regarding food products on the market. Others will appear in later issues. See page 989.

B-Ton, Vitamin Products Company, University Station, Tucson, Arizona. *J. Am. Med. Assoc'n* **98,** No. 1 (1932, Jan. 2) p. 48.

Description. Wheat embryo, slightly dried, admixed with a small amount of dry powdered yeast.

Manufacture. Wheat germ is dried in the sun, mixed with dried yeast, packed in bags in tins, and dried in ovens at 75° to 80°C. for a short time.

Nutritive value. Calories, 114 per ounce; vitamins—A is present, a good source of G, and an excellent source of B and E.

Use. Recommended for raising the level of B in the diet.

Dryco, The Dry Milk Company, Inc., New York City. *J. Am. Med. Assoc'n* **98,** No. 1 (1932, Jan. 2), p. 49.

Description. A drum-dried, irradiated, antirachitic, partially defatted milk, contains vitamin D in substantial quantity.

Manufacture. Milk is collected from healthy cows and tested for purity; it is partially defatted to 1.2 per cent fat content, is irradiated, in thin flowing streams, with ultra-violet rays for a few seconds and dried on double roller atmospheric drum driers. The powder is packed in cans exhausted of air and hermetically sealed in atmosphere of nitrogen; it will keep for 2 to 3 years.

Nutritive value. Calories, 119 per ounce; vitamins A, B, C, and G practically equal to those of the partially defatted milk used; D content is above 75 per cent of the potential maximum. Dryco produces definite healing in cases of moderate infantile rickets.

Use. Recommended for infants deprived of mother's milk and for convalescents.

Alice of Old Vincennes Tomato Juice, Vincennes Packing Corporation, Vincennes, Indiana. *J. Am. Med. Assoc'n* **98,** No. 8 (1932, Feb. 20) p. 640.

Description. Pasteurized tomato juice with added salt; retains in high degree the vitamin content of the raw juice.

Manufacture. Juice is extracted from No. 1, U. S. grade ripe tomatoes in atmosphere of steam vapor to eliminate air. It is heated to 62°C., salted, and put into glass bottles or tins which are then heated to 100°C. for about 15 minutes. Precautions are taken to prevent contact with air.

Nutritive value. Calories, 9 per ounce; vitamins, an excellent source of C, a good source of A and B complex.

Use. It is suitable for infant feeding and for general table use.

Borden's Pure Orange Juice, Borden's Farm Products Company, Inc., New York. *J. Am. Med. Assoc'n* **98,** No. 8 (1932, Feb. 20) p. 641.

Description. An unsweetened, uncolored frozen orange juice packed in hermetically sealed half-pint paper containers.

Manufacture. The juice from Florida oranges is expressed so that practically

no peel oil is included; it is subjected to "vacuum" and carbon dioxide to remove dissolved oxygen, frozen, packed, sealed, and stored at 17°C.

Nutritive value. Calories, 11 per ounce; vitamin C not demonstrably less than that of fresh juice.

Use. Suitable for all uses of fresh juice.

Borden's Brands Evaporated Milk, The Borden Company, New York. *J. Am. Med. Assoc'n* **98,** No. 8 (1932, Feb. 20) p. 641.

Description. Canned, unsweetened, sterilized, evaporated milk.

Manufacture. From whole milk from healthy cows, produced under sanitary conditions and tested for purity. Milk is concentrated in vacuum, homogenized, cooled, tested for conformity to standards, canned and processed under steam pressure for 20 to 30 minutes.

Nutritive value. Calories, 40 per ounce.

Use. For general baking, cooking, and table uses and in infant feeding. When diluted with equal part of water it is not below the legal standard for whole milk. The curds formed in the stomach are smaller, softer, and more readily digestible than those of raw or pasteurized milk.

Baby Ralston, Ralston Purina Company, St. Louis. *J. Am. Med. Assoc'n* **98,** No. 21 (1932, May 21) p. 1809.

Description. A cereal mixture of farina (wheat endosperm) and wheat embryo (germ).

Manufacture. Farina and a smaller quantity of wheat germ are mixed, briefly processed at 60°C. to destroy any insect infestation, and automatically packed in cartons.

Nutritive value. Calories, 108 per ounce; vitamins, a rich source of B and E, a fair source of A and G. It contains 2½ times as much B as whole wheat.

Use. A high protein wheat cereal designed especially for the infant's first cereal. Its fine texture permits its use in adult smooth diets.

MISCELLANY

Merger of Home Economics Magazines. Beginning with the November issue, *Home Economics News* merges with *Practical Home Economics*, which continues under its former name and takes over the unexpired subscriptions of *Home Economics News*.

Hospital Dietetic Courses. A list of the hospitals giving courses for student dietetics which have been approved by the American Dietetic Association is printed in the *Journal of the American Dietetic Association* for September. It includes the length of the course and the name of the dietitian in charge.

Character and Personality. This is the title of a new "international quarterly of psychodiagnostics and allied studies," the first issue of which appeared in September. The editor is Robert Saudek of London, and collaborators include internationally recognized authorities in their special fields. The publisher of the edition in English is the Duke University Press, Durham, North Carolina, and the subscription price is $2.00 per annum.

Childrens Magazine. This new ten-cent bi-monthly published by Dell Publishing Company, 100 Fifth Avenue, New York City, is edited by John Martin and reminds one of his former more elaborate, well-beloved *Book*.

Revue Internationale de l'Enfant. This tri-lingual magazine of the Save the Children International Union has, like so many other international publications, been obliged to suspend publication because of lack of funds. Its library will remain open, however, and those formerly exchanging with the magazine are requested to continue sending their publications to the Union Internationale de Secours aux Enfants, 31 Quai du Mont Blanc, Geneva.

Baby Health Service. In connection with its advisory service *Better Homes & Gardens* is continuing the publication of practical popular articles by recognized authorities in the field of mental health and child guidance.

Pseudo "5-Watt" Lamps. Incandescent lamps may and do vary with respect to light output and efficiency—qualities not designated on the lamp. The public, however, should be able to rely upon the substantial correctness of the watts designation which does appear on the lamp.

Recently Japanese lamps have been found upon the American market bearing "5-watt" designations. Electrical Testing Laboratories, on behalf of member companies of the Association of Edison Illuminating Companies, having surveyed these products, finds that many such lamps are anything but five watts, ranging all the way up to 20 watts, and averaging about 12 watts.

American Education Week. This will be celebrated in 1932 from November 7 to 13, and the theme, "The Schools and the Nation's Founders," has been chosen to emphasize the George Washington Bicentennial celebrations. Program suggestions may be obtained from the National Education Association, 1201 16th Street, N. W., Washington, D. C.

"Borrowing Money." A pamphlet of information on reliable agencies for loaning money in small amounts has been prepared by the National Better

Business Bureau, Chrysler Building, New York City, in an effort to protect borrowers from unscrupulous money lenders. It may be obtained by sending three cents postage.

Low-Cost Food Budgets. "Safe and Unsafe Economy," a recent magazine article by Lucy Gillett and Eva Selden Banks, is now available in separate pamphlet form from *The Parents' Magazine*. A booklet, intended to serve much the same purpose for English families, is "Family Fare," in which low-cost menus and budgets have been brought together, and is issued for sale at sixpence a copy by the Association of Teachers of Domestic Subjects, 29 Gordon Square, London.

"Hiring a Doctor by the Year." A successful experiment in community cooperation in the plateau country of North Carolina is described in the August issue of *The Farmer's Wife*. In return for a membership fee of $15 a year per family, members of the Stewart's Creek Doctor Association receive all the general medical care needed which a general practitioner usually gives.

"The Successful Family." Helen W. Ford is the author of a new bulletin of this title which gives an outline for the study of family problems based upon the assumption that there should be definite, premarital education for the founding of successful families; that the solution of many present day family problems lies in subjecting them to scientific treatment; and that help for those who marry consists principally in making them realize that success hinges upon their own continued and intelligent efforts. It is published as Kansas State College Bulletin Volume 16, Number 7 [Division of Home Economics Bulletin No. 6]. Dr. Ford, it will be remembered, is the author of an earlier bulletin in the same series "Applying Nursery School Methods of Child Training in the Home."

Stocky Bottles for Steadiness. To increase the convenience of bottles for flavoring extracts, two well-known manufacturers are marketing their extract in shorter, wider bottles which stand more securely than the high, slender ones in common use. Because of increased size at the base, the new bottles are lower than some of the ordinary types with the same capacity, and the manufacturers fear that housekeepers will be misled by this into imagining that the new, more convenient bottles hold less. In reality, they are less deceptive than some of the old types, and in any case the statement of contents on the label is the surest guide.

References to Standards of Home Living. The first draft of a list of references showing standards of living in American homes at different periods has been prepared by a special committee of the division of family economics of the American Home Economics Association, of which Irma Gross is chairman. The material is drawn from general literature as well as from special books and documents and is classified under five periods. Because the list is incomplete and tentative, only a small mimeographed edition has been prepared. While they last, individual copies may be obtained from Dr. Day Monroe, New York State College of Home Economics, Cornell University, Ithaca, New York.

NEWS NOTES

GENERAL

National Safety Congress. This annual congress, which in 1932 met in Washington, D. C., October 3 to 7, included two sections of special interest to home economics, those on child education and on home safety. The former, whose general chairman is Superintendent Gosling of the Akron public schools, held three sessions at which technic and progress in safety education at different educational levels were discussed. At the session on home safety speakers included Alice L. Edwards of the American Home Economics Association and Grace Abbott, chief of the U. S. Children's Bureau.

American Institute of Real Estate Appraisers. The recent formation of this Institute by the National Association of Real Estate Boards is intended to provide a definitely professional body for self-government in appraisal practice, organized and equipped to set up standards and enforce them. Its functions will be similar to those exercised by such bodies as the American Institute of Architects, the various engineering societies, and the American Society of Certified Public Accountants. Philip W. Kniskern of New York is president, and Herbert U. Nelson of Chicago, executive secretary of the National Association of Real Estate Boards, is ex officio secretary of the Institute. Over a hundred candidates immediately qualified for membership, and may designate this fact by the letters "M.A.I."

The Industrial Arts Cooperative Service, Inc. This non-profit enterprise, which developed from an information service started by one teacher in an industrial arts classroom and which now has a membership of over 1200, has just issued a new catalog listing teaching items related to food, textiles, clothing, housing, costume, murals, pottery, and lighting, which are of distinct significance to home economics teachers. Copies may be purchased for ten cents each from the headquarters at 519 West 121st Street, New York City.

German Institute for the Science of Household Economics. The responsibility for the Institut für Hauswissenschaft, which was previously vested in a small board of trustees, was last spring transferred to a society of wider membership. The purpose remains the same, to promote the science of household economics by means of research and teaching, and the new society has official connection with the Prussian Ministry of Agriculture, Domains, and Forests, and with the Academy for Women's Social and Educational Work. Membership is open to individuals or organizations with annual dues of 12 RM or 25 RM, respectively. The direction is in the hands of an executive committee elected by the Society and approved by the Ministry, and the activities will continue as heretofore, including the publication of the magazine *Hauswirtschaftliche Jahrbücher*. Käthe Delius is president, Dr. Maria Silberkühl-Schulte director, and Dr. Gertrude Hübinger manager of the Institute, whose address is Invalidenstrasse 42, Berlin N. 4.

Rural Housewives. Delegates from

rural housewives' organizations in 30 countries recently met in London for an economic conference. As reported in *Land und Frau*, the most important questions discussed were the difficulties of selling agricultural products, unemployment, and the constantly sinking standard of living of the rural population. The sales organization of the German rural housewives' leagues aroused much interest, as did the household apprentice system of that country, which many feel might well be adopted elsewhere.

ALASKA

The Alaska College of Agriculture and School of Mines. A large crowd attended open house in May when an exhibit and a style show were held. Garments made in clothing classes were shown, and tea was served by one of the foods classes.

Members of the meal planning and preparation class planned and served a luncheon to the girls of the graduating class of Fairbanks High School and their mothers on April 30.

Allene Sewell was on leave of absence the first semester of last year to complete work toward her master's degree at the University of Minnesota. Lydia Fohn-Hansen of the extension division substituted for her.

Betty Hopkins, '31, is student dietitian at Minneapolis General Hospital.

Home Economics Extension Service. Two short courses were held during the year with a total enrollment of over fifty.

Lydia Fohn-Hansen has returned from an extended tour of towns along the railroad and on the coast where she visited homes, organized 4-H clubs, gave lectures and demonstrations, and organized study groups. She has made a special effort to revive the weaving craft among the native Indians and on her tour gave instruction in design and color.

Alaska Public Schools. The following teachers from the United States were employed to teach home economics in the Territorial schools during the year 1931–32: Verneita Herron of Oregon State College, at Anchorage; Lucile Pepoon of the University of Wyoming, at Douglas; Laura Lee of St. Olaf's College, Minnesota, at Fairbanks; Helen Gray of Montana State College, at Juneau; Vera Thompson of the State College of Washington, at Ketchikan; Hope Hennessey of Washington State College, at Seward; and Dorothy Simpson of the University of Illinois, at Wrangell.

ARIZONA

State Department of Education. Mrs. Eva Waller, state supervisor of home economics, has called four district conferences for the home economics teachers of the state at Holbrook, Safford, Benson, and Phoenix. The following topics will be discussed: "Meeting the Present Economic Situation," "Home Economics Publicity," "Classes for Adult Homemakers," "Home Projects," "Selecting Books and Magazines for the Home Economics Department," "Units of Work to Be Included in the Seventh and Eighth Grade and High School Courses," and "Teaching Child Development and Social and Family Relationships." Mrs. Waller will be assisted in these conferences by Faye Jones, teacher trainer in home economics at the University of Arizona.

Tempe State Teachers College. Ruth Douglas, a graduate of Oregon Agricultural College, has been appointed instructor of foods and nutrition. Last year Miss Douglas was research assistant to Professor H. C. Sherman of Columbia.

University of Arizona. Faye Jones received her master's degree at Columbia University during the summer session. She was an assistant in the nursery school

at Columbia and has done special study in that field.

CALIFORNIA

California Home Economics Association. *Bay Section.* Owing to the recent resignation of Dr. Florence Armstrong as president, Ilma L. Badgley, vice-president, has succeeded to that office. Miss Badgley is supervisor of the teaching of home economics in the University High School and lecturer in home economics education at the University of California.

"What Home Economics Is Doing to Meet the Present Economic Situation" is one of the subjects for discussion at the fall meeting which is to be held in November in conjunction with that of the California State Teachers' Association.

Ilma Badgley and Mrs. Ane Alvord were among the delegates sent to the Atlantic City meeting of the National Education Association in June. Miss Badgley stopped over at the University of Chicago for advance study.

One of the pleasantest events of the summer was a dinner given in honor of Dr. Henry C. Sherman. It was attended by home economists, members of the medical profession, and others whose interest is in nutrition. Dr. Sherman was accompanied by his wife and daughter.

Southern Section. Speakers at the first meeting of the year were the new president, Ada Kennedy, Georgia Ruffcorn, and Essie L. Elliott; and the program included reports of the Atlanta meeting, plans for economic adjustments by homemaking departments, possibilities of a regional conference, and a program outline for the year.

Etta P. Flagg of Los Angeles spent the summer at her home near Boston.

Maud E. Hayes and Elise Larsen are the proud possessors of a mountain cabin designed by Douglas Donaldson and located in the Lake Arrowhead district.

Edna Cunnison, formerly a section news gatherer, was married during the summer to Paige Cavanaugh, an aviator. They will reside in Arizona.

Jean MacDougall, former manager of the Manual Arts High School cafeteria, was married in June to Henry Boyer.

The many friends of Mrs. Florence P. Magoon will be saddened by the news of her death in August. She had been ill for two years.

Mills College. Mildred Reynolds is director of food service at the College. She has four graduate students as apprentices this year—graduates of Michigan State, Kansas State, and Oregon State Colleges and the University of Washington.

University of California, Berkeley. Dr. Ruth Okey of the household science department has been working on the Heller Committee for the past year. This committee, working under the department of social economics of the University, has recently published interesting reports on the spending of funds by families receiving aid from county and local welfare agencies. They have also compiled meal plans with both economic and nutritional factors in mind as an aid to these families.

Dr. Agnes Fay Morgan presented the results of recent research in the University's household science department at the summer meetings of the Pacific Coast Division of the American Association for the Advancement of Science in Pullman, Washington, and of the American Chemical Society in Denver, Colorado.

Irene Sanborn received her doctor's degree from Cornell University during the summer and has resumed her duties in the household science department.

California Dietetic Association. An interesting feature of the meeting at Chapman Park Hotel, September 9 and 10, was a talk by Mr. Chapman, who de-

scribed the diets of the young women who participated in the Olympic games. The hotel was their headquarters, and the management was called on to provide high fat diets for the Germans, Austrians, and Hungarians, and large quantities of white bread for the Hollanders and others to whom it was a delicious novelty—as was ice cream. Mr. Chapman reported that many of the girls ate a huge beefsteak three hours before competition began. Dr. Agnes Fay Morgan of the University of California at Berkeley was the guest speaker at the convention banquet.

DISTRICT OF COLUMBIA

District of Columbia Home Economics Association. Officers for the coming year are: president, Florence L. Hall; vice-president, Mrs. Ola Day Rush; secretary, Mrs. Franc Westnay; corresponding secretary, Margaret Lunn; and treasurer, Mrs. N. R. Ellis.

Chairmen of committees are: program, Catherine Cowsill; hospitality, Marie White; membership, Edith L. Allen; publicity, Jessie Knox; news gatherer, Bess Viemont.

Section chairmen are: home economics in business, Ruth Sheldon; clothing and textiles, Irene Minear; homemakers, Mrs. Nathan Gammon; nutrition, Winifred Alvather.

Plans for November include a joint meeting with the District of Columbia Dietetics Association, at which time Dr. Lillian B. Storms of the Gerber Products Company, Fremont, Michigan, will speak on "Child Nutrition."

ILLINOIS

Illinois State Normal University. Annetta Belle Cooper, assistant professor of home economics, died suddenly of heart failure on September 4 at the home of her father in Normal. She was graduated from the University in 1911, and did advanced work at Stout Institute, Columbia University, and Iowa State Teachers College. Long a member of the faculty at Normal, and chairman of the homecoming committee, she will be sadly missed by her many friends among faculty, students, and alumnæ.

INDIANA

Indiana Home Economics Association. Mildred Johnson, state councillor, attended the American Home Economics Association meeting in Atlanta. Mrs. Erma B. Christy and Ella Hollenback of the Muncie city schools accompanied her.

Ball State Teachers College. The home management house added a baby to its family during both summer terms —a most valuable experience for both baby and girls.

Mildred Johnson, assisted by Dorothy Ayres, a student, had charge of the educational program for the Ball Brothers Factory at the Delaware County Fair.

Butler University. The department of home economics has the largest enrollment in its history, and the laboratory capacity in some courses was exhausted before all students desiring the courses were registered.

A new course in institutional management will be offered in the second semester by Professor Helen Cade.

Ida B. Wilhite, head of the department of home economics, will fill three lecture engagements in October, her subject being "High Lights of Costume from Cleopatra to the Crinoline Girl." The lecture will be illustrated with figurines.

Purdue University. Amy Bloye spent the summer traveling in Northern Europe.

Laura Partch attended the Iowa State Child Welfare Conference in June on her way to spend the summer in California.

Amy L. Howe studied at the University of Chicago during the summer quarter.

Three new nursery school apprentice teachers have been appointed for the first semester: Beverly Martin, from the University of Nebraska; Amy Peterson, University of Wisconsin; and Ruth Wagner, Iowa State College.

Muriel McFarland has been appointed associate professor of home economics education, succeeding Emma A. Baie, resigned.

Inez Kent of the home economics extension department and Gail Redfield of the experiment station were in charge of the household equipment section of the rural electrification exhibit at the State Fair. This exhibit featured operation costs for electric equipment based on current consumption records obtained during the past year on metered equipment on Indiana farms. Fourteen household appliances were operated from a specially constructed cost meter which showed in cents the cost to operate each appliance for one hour at the rate of seven cents per kilowatt hour.

"Self-Help Clothes for the Preschool Child" was the theme of the clothing exhibit of the home economics extension division at the Indiana State Fair. Meta E. Martin, assistant state leader, and Frieda Stoll, clothing specialist, prepared the exhibit. Winter outdoor play suits made from adult garments vied in interest with the homemade shoe cabinet.

Marion County. A "Home-Made Farm Relief" program began at hot-bed planting time in Marion County when vocational agriculture and home economics teachers, county agriculture and home demonstration agents, and home economics and parent-teacher clubs got behind the garden and food preservation program. By State Fair time the idea had taken additional form, namely a booth containing 86 quart jars of fruits, meats, and vegetables, together with a placard showing the estimated amounts of canned and stored foods needed by the average family of five for one year. This booth won for the Marion County Home Economics Club a blue ribbon and check.

"Self-Help Clothing for Toddlers and Up," a traveling exhibit prepared by Meta Martin and Frieda Stoll of Purdue's home economics extension division, is available for loan to home demonstration agents of Indiana. Janice Berlin of Marion County will have it in Indianapolis the latter part of October and November, when it will be available for meetings of various groups.

State Vocational Home Economics Conference. A very successful program patterned on a "School in Methods" was planned by Agnes Watson, Indiana home economics supervisor, and executed by her, with the help of the itinerant teacher trainers from the two state teachers colleges and two state universities, for the State Conference of Vocational Home Economics Teachers held at Indianapolis from June 13 to 16. The enrolled teachers were organized into rotating groups, each group meeting with each of the discussion leaders for intensive study of the curriculum and of the student needs in a particular field. "Related Arts" was presided over by Mrs. Ringle of Ball State Teachers College; "Home and Social Relations," by Hortense Hurst of Indiana State Teachers College; "Home and Social Relations," by Elizabeth Stevenson of Indiana University; while Laura Hadley of Purdue University discussed in the general sessions "Selection and Use of Texts, References, and Illustrative Material," "New Type Tests and Measurements in Home Economics," and "Practical Standards for Home Economics Equipment."

Superintendent George C. Cole of the State Department of Public Instruction and Dr. Z. M. Smith, state director of vocational education, addressed the first assembly group.

Dr. Esther McGinnis, field worker in child development and parental education for the American Home Economics Association, discussed "Objectives and Methods in Teaching Child Development in the High School" and gave teacher-aid sources and reading references.

Florence Fallgatter of the Federal Board for Vocational Education, author of the Board's bulletin on related art, was a most welcome aid to Mrs. Ringle in her discussion groups.

The opportune discussion of the 4-H Club program by May Masten of Purdue University saved many letters and trips to Purdue by vocational teachers who were in the midst of a club organization program at that time.

"Standards for Home Economics" as given by Agnes Watson made a fitting close to the three-day conference.

KENTUCKY

Eastern State Teachers College. A course in family relationships is being introduced this fall. It will be required of all majoring in the subject and will be open to other students.

Costume design and interior decoration courses will be taught by Allie Fowler, who did the work for her master's degree in the field of applied art.

The Home Economics Club of 1931–32 presented the home economics department with two large steel filing cabinets and left enough money in the treasury to finance a social for the incoming members this fall.

Barbara Alexander is the new president of the Home Economics Club for the year 1932–33.

LOUISIANA

Louisiana Home Economics Association. Johne Bowles, president, and Clyde Mobley, state supervisor of home economics, attended the American Home Economics Association meeting in Atlanta in June.

Student Clubs. The student home economics club of the C. E. Byrd High School, Shreveport, gave a parish-wide luncheon on May 14 in the home economics department. The guests included three delegates and the club sponsor from each of the eight high schools in the parish, as well as parish and state officials. A most interesting program was rendered, and a feeling of fellowship was developed.

Ruth Kelly of C. E. Byrd High School, state president of student home economics clubs, led the delegation of 15 student club representatives to the meeting in Atlanta. She was elected national chairman of the department of student clubs in the American Home Economics Association at this meeting.

Louisiana led the Union in affiliated student clubs, with a total of 133, and also made the greatest gain, 60 per cent, in the number of affiliated student clubs during the past school year.

A traveling scrapbook is now available containing write-ups of all activities of student clubs during 1931–32 as reported to the state chairman of student clubs. It also includes pictures, favors, newspaper clippings, and accounts of the parish, state, and national meetings.

State Department of Education. Clyde Mobley visited the University of Tennessee and the Federal Board for Vocational Education en route to Cornell University for six weeks of study in parent education.

The final reports for the adult homemaking classes for 1931–32 show a total

registration of 1,236 women, an increase of 779 over the previous year. This work was taught in 33 centers.

A five-day home economics conference for negro vocational teachers was held in June at Southern University, under the leadership of Clyde Mobley and Lela A. Tomlinson, state supervisors.

The following teachers received their master's degrees this summer: Irene Moncrief, from George Peabody College for Teachers; Merle Burk, from the University of Iowa; and Mrs. Lucy Richardson and Genevieve Bourg, from Louisiana State University. Natalie Morris did advanced study at the University of Tennessee this summer.

The Richland Parish home economics departments conducted the first parish-wide Home Economics Night in the Rayville High School in May. The program represented unusual versatility among the girls, who put on one-act plays, each depicting some phase of a unit studied during the year, and clothing revues with appropriate songs. Home economics teachers arranged for the school transfers to handle the transportation of more than 100 girls over a distance of from ten to thirty miles.

Louisiana Polytechnic Institute, Ruston. Helen Graham, director of home economics, studied at the University of Colorado this summer.

Friends of Stella Bartlett will regret to learn of her death in Iowa this summer.

Atlanta Meadors has been appointed to fill the vacancy in the food and nutrition department.

Louisiana State University. Helen Carter, director of home economics, has returned after a year's study. She received her doctor's degree in June from New York University.

Hazel Baker, assistant professor of home economics, is on leave of absence during the fall semester for advanced study at Columbia University. Mrs. John E. Coxe has assumed her duties.

Ona Smith and Susanne Thompson of the home economics faculty studied at Columbia and Cornell this summer.

Extension Division. Louisiana's special three-weeks' summer school for agricultural workers held this year at the State University was the largest of its kind ever held in the United States. There were approximately 100 farm and home agents, teachers of vocational agriculture, and extension workers enrolled. Mary Rokahr and M. C. Wilson of the U. S. Department of Agriculture gave instructions in extension methods.

After a year of graduate study at Columbia University, Gladys Tappan has returned as district agent for the Northwest Louisiana district.

Tom Bourg, district agent, and Marjorie Arbour, extension journalist, are spending several months abroad. After their return Miss Bourg plans to spend the remainder of the year studying.

The annual farmers' and farm women's short course, held at the Louisiana State University from August 8 to 11, was attended by about 1,500 people. The women's program consisted of demonstrations, lectures, and discussions on house furnishing, nutrition, gardening, and parent education. Outstanding events of the week were the banquet attended by over 700; the play "Cotton Blossom's Second Blooming," written by Miss Arbour for the staging of the fourth annual dress revue; and the tour and visits to some attractive gardens and the new State Capitol on Neighbors' Day, an annual function sponsored by the women of the Civic Club of Baton Rouge.

MARYLAND

Maryland Home Economics Association. *Baltimore-Washington Home Eco-*

nomics in Business Section. Officers for the year 1932–33 are: chairman, Ruth Sheldon, Washington; secretary-treasurer, Katherine DuBois, Washington; news gatherer, Dorothy Carter, Baltimore.

University of Maryland. The College of Home Economics is holding open house at the practice house this year to all alumni and their wives on the annual Home-coming Day.

Western Maryland College. Della Avery, former head of the department of home economics, is a student this year at Pennsylvania State College. Her successor is Laurie Brown.

Baltimore. The home economics staff of the city schools through the economy committee has issued a thirty-page supplement to the home economics course.

A new "Foods and Cookery Booklet," the students' handbook, is now ready for distribution.

Martha Ross Temple is a new member of the home economics staff of McCormick and Company of Baltimore.

MICHIGAN

Battle Creek College. The nutrition research laboratory of the College, under the direction of Dr. Helen S. Mitchell, besides being used for research and teaching purposes, is now open to carry on biological assay work and vitamin testing for outside organizations. All tests are conducted according to standard methods. Reports from this laboratory have been accepted by the Food Committee of the American Medical Association.

MISSISSIPPI

Mississippi Home Economics Association. The state association had 22 representatives at the Atlanta meeting. The officers and chairmen who attended were: president, Loyette Webb; councilor, May Haddon; news-editor, M. Esther Rogers; student club chairman, Winnie J. Hood; and extension chairman, Ida Morgan. Others present were Mary E. Doney and Ouida Midkiff of the extension service, Olive Sheets and Ernestine Frazier of the research group, and Mary J. Wilson and Mrs. Erline Hubbard from the Mississippi State College for Women.

Students Clubs. The prize for the best student club work for last year went to Winnie J. Hood and the Perkinston Junior College Club. The retiring chairman, Lelia Massey, presented a lovely Shearwater pottery vase to Miss Hood and also the chairmanship of student clubs for this year. Plans are already being made by the chairman and section for good representation at the Milwaukee meeting in 1933.

Mississippi State College. *Extension Service.* Thirteen 4-H club girls will represent Mississippi at the National Boys' and Girls' 4-H Club Congress in Chicago November 27 to December 3.

The number of home demonstration work districts have been reduced from four to three with the following agents in charge: Olive Dowell, West; Kate Lee, East; Mrs. Emma Lindsey, South. Ida Morgan, former district agent of Northeast Mississippi, is now assistant state agent in charge of women's organizations; and Jewel Garland, former district agent of Delta District, is now assistant girls' 4-H club leader.

Members of the State Extension Department who have returned to work after sabbatical leave are: Elaine Massey, state girls' 4-H club leader; Eva Legett, assistant poultry specialist; and Anne Jordan, home management specialist.

Dorothy Dickins, in charge of the home economics department of the State Experiment Station, has been studying for her doctor's degree at the University of Chicago during the past year.

State Teachers College, Hattiesburg. Lillian Poyntz of Birmingham, Alabama, succeeds Janet Smith as nursery school director. Last year Miss Poyntz was research assistant in the Institute of Child Welfare, University of Minnesota.

Pearl Campbell of the clothing department completed work for her master's degree at Iowa State College this summer.

Vocational Education. Vocational home economics education shows an increase during the fiscal year of 27 new all-day departments, bringing the total to 178. Fourteen of these are negro schools. Enrollment of day-school pupils totaled 5,804, and there were 72 adult class centers with an enrollment of 2,404. The "Live-at-Home" program was emphasized and a total of 6,110 home projects was completed by day school pupils.

The itinerant teacher-trainers, Lelia Massey from Mississippi State College for Women and Bertha Fritzsche, State Teachers College, will be in the field full time this year with Eunice Davis Powell from Alcorn College doing part-time itinerant work with the colored schools.

MONTANA

Montana State College. The first state Conference on Parent Education was held at the College on September 2, with Dr. Esther McGinnis of the American Home Economics Association in charge. The day's discussion centered about the topics "The Responsibilities of Family Life and Parenthood in a Modern World" and "Parent Education Methods and Subject Matter."

Extension Service. Josephine Pollock succeeds Mrs. Hazel Kidder Porter as extension specialist in clothing. A graduate of Parsons College and Iowa State University, Miss Pollock has also studied at Iowa State College and Colorado University and has had considerable experience in teaching and in home demonstration work in Illinois.

Vocational Education. Dr. Esther McGinnis was the guest leader of the annual Montana Vocational Conference. Child development and family relationships were the major topics of the Conference.

OUR CONTRIBUTORS

Elizabeth Guilford of the home economics bureau of the Metropolitan Life Insurance Company was noted among contributors to the January issue.

Florence A. Armstrong, a member of the faculty of the household science department, University of California, Berkeley, was a contributor to the April number.

Morse Salisbury, chief of the radio service of the U. S. Department of Agriculture, is exceptionally well qualified to discuss home economics on the air. Another paper by him appeared in September, 1931.

Lydia J. Roberts, now chairman of the department of home economics, University of Chicago, is well known to home economists as research worker, writer, speaker, and teacher in child nutrition. She has from its inception been closely associated with the National Dairy Council's work to improve school lunches.

Ethel Austin Martin combines work as nutrition specialist for the National Dairy Council with that of extension instructor at the University of Chicago. She holds the master's degree from Teachers College, Columbia University, and has done college teaching in Texas and Illinois. **M. Lucille Davison** is a graduate of Akron University with ten years of teaching in the Akron schools, including six in which she has directed the cafeteria and taught in the Garfield High School. Since 1931 she has done the special health work described in the JOURNAL.

Cully Alton Cobb, editor of the *Progressive Farmer and Southern Ruralist,* was assistant director of extension work in Mississippi before he entered the publishing field and maintains active interest in problems of rural life and betterment.

Anna Louise Tomlinson was formerly librarian at her alma mater, Whittier College, and holds the bachelor's degree in library science from Michigan. Her home is in Whittier, California.

Marian E. Willoughby, assistant professor of costume design in the School of Home Economics, Purdue University, specialized in textiles and clothing at Columbia University, where she took her master's degree, and has taught the subject in both high schools and colleges.

Mary M. Buckley, supervisor of home economics in Paterson, New Jersey, is more widely known as an officer of the Department of Supervisors and Teachers of Home Economics in the National Education Association. She is a graduate in home economics education from Teachers College, Columbia University.

Beneta Reid has taught clothing and textiles in the schools of Kansas City, Missouri, for the past twelve years, the last six at East High School. She received the bachelor's and master's degrees from Colorado State Teachers College and has done graduate work in the field of family relations. That referred to in this issue was done at Teachers College, Columbia University.

Julia Lurena Southard did her undergraduate work at the University of Missouri, took a master's degree in home economics at Kansas State College, did advanced textile research there for a year, and is this year continuing her research under Dr.

George L. Clark, in the department of chemistry, University of Illinois. **Dr. E. L. Tague,** professor of chemistry at Kansas State College, who directed her work in the study here reported, is a specialist in the chemistry of proteins. Their method of studying silk proteins by absorption bands in the ultra-violet spectrum is said to be a new departure, promising to be better than the usual purely chemical methods.